

JOHN OF SALISBURY ON
ARISTOTELIAN SCIENCE

DISPUTATIO

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JOHN OF SALISBURY ON
ARISTOTELIAN SCIENCE

by

David Bloch



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From about the age of twelve, I entered into another and more advanced stage in my course of instruction; in which the main object was no longer the aids and appliances of thought, but the thoughts themselves. This commenced with Logic, in which I began at once with the *Organon*, and read it to the *Analytics* inclusive, but profited little by the *Posterior Analytics*, which belong to a branch of speculation I was not yet ripe for.

John Stuart Mill

CONTENTS

Preface	ix
Introduction	xiii
Chapter 1. John of Salisbury's Studies	1
Chapter 2. John of Salisbury's Sources	27
Chapter 3. Twelfth-Century Logic and Science	63
Chapter 4. John of Salisbury on Science	83
Conclusion	187
Appendix 1. Adam of Balsham and the Cornifician Problem	191
Appendix 2. Thierry of Chartres's <i>Heptateuchon</i>	207
Bibliography	211
Index nominum et locorum	231

PREFACE

When I first began to examine the use and knowledge of Aristotle's *Posterior Analytics* and demonstrative science in the twelfth century, John of Salisbury naturally seemed by far the most important source for the early reception and understanding, not only of this text, but of the whole *Logica nova*. Medieval thinkers had known the *Categories* and the *De interpretatione* along with Porphyry's *Isagoge* for a long time, but the rest of the Aristotelian *Organon* had only recently become available again. The best thinkers of the 1130s and 1140s certainly knew some of the works, perhaps all of them, but the extent of their knowledge is not at all clear from their own writings. John of Salisbury is the first scholar of the Middle Ages who writes as if he had access to the entire *Organon*. He was also the first to put in writing a comprehensive plan for the use of the texts in the general education of his day. Therefore, it seems a reasonable first hypothesis that John of Salisbury does his scholarly work on an *Aristotelian* foundation. However, the extent of his knowledge of Aristotle is, in fact, very difficult to ascertain.

It is, therefore, not surprising that quite a few books, articles, and collections of papers have been written on John of Salisbury,¹ and that a number of these have dealt with John's thoughts and general philosophical outlook.² It is, however,

¹ For a selection, see Schaarschmidt, *Johannes Saresberiensis*; Bellenguez, *Un Philosophe académicien*; Webb, *John of Salisbury*; Liebeschütz, *Mediaeval Humanism*; Dal Pra, *Giovanni di Salisbury*; Guth, *Johannes von Salisbury*; *The World of John of Salisbury*, ed. by Wilks; Dafonte, *Juan de Salisbury*; Guilfooy, 'John of Salisbury'; Nederman, *John of Salisbury*. For extensive discussion of the literature before approximately 1983, see Dotto, *Giovanni di Salisbury*, pp. 15–34. For bibliographies of works on John of Salisbury, see Nederman, *John of Salisbury*, pp. 87–95, and, for the *Metalogicon* in particular, my bibliography below.

² See, in particular, Mazzantini, *Il Pensiero filosofico*; Palazzo, 'Il valore filosofico', pp. 96–142; Hendley, 'John of Salisbury's Defense', pp. 753–62; Garfagnini, 'Ratio disserendi', pp. 915–54; Diez, 'Lo que la historia ha pensado', pp. 263–92; Dotto, 'Logica ed etica', pp. 7–33; Gerl,

strange that not a single major work has, to the best of my knowledge, examined John's views on, or perhaps even theory of, Aristotelian science as they are found in the *Metalogicon*.³ In particular, since so much of our knowledge of the reception of Aristotle depends precisely upon John's work, it is important to study and evaluate John's intellectual abilities, look at his school years and time in Paris, and determine what level of philosophical knowledge he acquired during his studies in Paris. Scholars have so far focused attention primarily on John's life and works from a biographical perspective. When John's oeuvre is actually investigated with an interest in the philosophical matters, it is usually the *Policraticus* and its political theories that are examined, or more specific points in John's philosophy.⁴ In the present book I shall attempt to treat John of Salisbury primarily from an Aristotelian point of view. His biography and historical facts are also treated with some care, but only in so far as they help to illuminate his philosophical training and general outlook.

Aristotle's works are generally cited from the medieval Latin translations, since these were, of course, the versions known to John and other medieval scholars. In a few passages the Greek text is cited instead, when its wording is needed in the argument. John of Salisbury's works have, with only minor exceptions, all been published in modern editions, most of them very good ones. I cite texts from available editions, but I do not always respect the orthography and punctuation of the editions, and I have often imposed my own. Primary sources are normally cited in the footnotes with the author's name, short title of the work, and modern editor (except in the case of major classical texts where this is omitted); then by book (often in small capitals), chapter and/or verses (if such have been established

'Zum mittelalterlichen Spannungsfeld', pp. 37–51; Jeauneau, 'Jean de Salisbury et la lecture des philosophes', pp. 77–108; Dotto, *Giovanni di Salisbury*; Garfagnini, 'L'attività storico-filosofica', pp. 23–42; Burnett, 'John of Salisbury and Aristotle', pp. 19–32; Jeauneau, 'Jean de Salisbury et Aristote', pp. 33–39; Grellard, 'Jean de Salisbury', pp. 16–40.

³ For partial exceptions, see Palacz, 'Bezpośrednia recepcja Arystotelizmu', pp. 191–251 (French summary, pp. 250–51) with many important statistics; Hendley, 'Wisdom and Eloquence'; Jeauneau, 'Jean de Salisbury et la lecture des philosophes'; Nederman, 'Knowledge, Virtue and the Path to Wisdom', pp. 268–86; Burnett, 'John of Salisbury and Aristotle'; Jeauneau, 'Jean de Salisbury et Aristote'.

⁴ The extensive work of Nederman is particularly important here: for example, Nederman and Brückmann, 'Aristotelianism in John of Salisbury's *Policraticus*', pp. 203–29; Nederman, 'The Aristotelian Doctrine of the Mean', pp. 128–42; Nederman, 'The Physiological Significance of the Organic Metaphor', pp. 211–23; Nederman, 'Nature, Sin and the Origins of Society', pp. 3–26; Nederman, 'A Duty to Kill', pp. 365–89; Nederman, 'Aristotelianism and the Origins of "Political Science"', pp. 179–94.

in the scholarly literature), and then the page number(s) of the edition used. The full bibliographical details are found in the bibliography. Aristotle's *Analytica posteriora* and *Analytica priora* are referred to by the abbreviations *APo.* and *APr.* respectively, and other frequently cited works by Aristotle, Cicero, and others may simply be cited by author and work, or work alone, depending on the context. All Latin passages have been translated, except in some cases where the content has already been stated in a paraphrase in the main text. Translations are my own, but I have consulted the existing translations of John's works and occasionally borrowed a phrase or two.

Aristotle and John of Salisbury are very different thinkers, but they share the common feature of being difficult to study, and I would hardly have even hoped to be able to penetrate their thoughts had it not been for all the generous help that I have received from numerous scholars and friends. It is a great pleasure for me to thank Charles Burnett, Börje Bydén, Michael Stenskjær Christensen, Bernard G. Dod, Sten Ebbesen, Jakob Leth Fink, Margareta Fredborg, Christophe Grellard, J. B. Hall and A. L. Ritchie, Heine Hansen, John Marenbon, Ana Maria Mora-Márquez, and Christina Thomsen Thörnqvist. I am also grateful to the editors of *Disputatio* for accepting this book for publication, to the appointed reader for comments and criticism, to the editors at Brepols, and to Claire Mabey for correcting my English. Needless to say I am responsible for any remaining errors.

I owe a special thanks to the VELUX Foundation for funding the Centre for the Aristotelian Tradition (CAT) including my research in Copenhagen.

Finally, as in all things, I owe thanks to my wife and children, Birgitte, Johannes, Andreas, Lea, and Daniel, for their constant support.

INTRODUCTION

In this book, I attempt to establish and analyse John of Salisbury's theory of science. Since I start from the assumption, based on the structure and explicit purpose of the *Metalogicon*, that John's theory is an *Aristotelian* theory, even if it incorporates Ciceronian and Augustinian elements, the book contains extensive treatment of his Aristotelianism. The argument is divided into four chapters that are each concerned with an aspect of his philosophical foundation and views. First, I examine John's time as a student in Paris (Chapter 1); second, I treat his possibilities of scholarly studies as the result of the availability, or lack thereof, of Aristotelian and other texts (Chapter 2); third, I describe the general state of scientific and logical theories in the twelfth century (Chapter 3); and fourth, I present an analysis of his actual philosophical and scientific views and theories as they are found in John's own writings, and especially in the *Metalogicon* (Chapter 4). The book is focused narrowly on *John's* views, and therefore the works and philosophies of his contemporaries are not examined as thoroughly as they might have been. The general reception of Aristotle in the twelfth century is, however, treated in much detail.¹

Some philosophical topics that were important in the twelfth century are not treated here. In particular, it should be noted that universals do not play an important part for John in his descriptions and analyses of Aristotelian science in *Metalogicon* books III and IV. Therefore, I do not discuss John's views on the nature of universals, even though this decision has been criticized by some of my fellow scholars. Furthermore, while I sometimes explain the technical terms, I take for granted some acquaintance with Aristotelian terminology and the use of important concepts (demonstration, dialectic, probabilism etc.).

¹ Four doctoral dissertations, which, judging from their titles, would have been useful for the present study, were not available to me: Dowdell, 'Aristotle's Influence'; Ryan, 'John of Salisbury'; Tolan, 'John of Salisbury, Philosopher'; Seward, 'Unity through Diversity'.

Chapter 1 analyses John's period of study in Paris (1136–47/8) focusing on topics that are relevant to our understanding of John's philosophical and scientific foundation, that is, the things he learned and the views that he formed in this period. Very limited attention is given to the vexed questions of chronology and the so-called 'School of Chartres'. I discuss these and other such issues only in so far as they are relevant to the overall purpose of this book. I state the chronology of John's studies primarily in order to argue that his attitude towards logic is not as simple and clear as he would have us believe. In particular, even though John records that the kind of logic he had learned from Abelard, Alberic, and Robert of Melun in the years 1137/8 was not very useful because he thought it overly theoretical and did not assist in how to live one's life, it is nonetheless apparent that John's studies of logic continued until the departure of Gilbert of Poitiers in 1142. Indeed in 1141–42 he studied logic with one of the most subtle masters of the entire century, namely, Gilbert.

Chapter 2 provides descriptions and analyses of the situation in the second quarter of the twelfth century as regards the general availability and use of Aristotelian texts, and to a lesser extent concerning other relevant texts. Such descriptions and analyses of the textual situation at the middle of the twelfth century are necessary in order to understand the foundation on which John had to build his theories. The disputed and partly obscure transmission of the *Posterior Analytics* is treated with particular care, since this is the single most important Aristotelian treatise on science. The non-Aristotelian sources are also examined, and it is argued that John's attitude towards, and use of, the non-philosophical authors, primarily the Latin poets, reveals much about his general philosophical outlook. In particular, it is argued that John's general admiration for a number of the non-philosophical authors has important consequences, both regarding his philosophical views and concerning his use of the authors in philosophical argument. In the final section of the chapter, I examine a part of the Arabic tradition. The precise nature of its influence, if indeed there was one at the time, remains uncertain, but I argue that several features of John's thought may be explained by influence, whether direct or indirect, from this tradition.

Chapter 3 provides an overview of some of the theories current in the twelfth century. In particular, I discuss theories in which demonstration plays an explicit role and theories in which non-Aristotelian elements, not least the use of 'discovery' (*inventio*) and 'judgement' (*iudicium*), are prominent. The chapter also discusses a non-Aristotelian feature of John's thinking, namely, his well known Academic Scepticism.

Chapter 4 is the central part of the book. I analyse John's discussions with the Cornificians. In particular, I analyse his views on, and use of, Aristotle's *Topics*

and *Posterior Analytics*. John holds that the former treatise is by far the most important, and his general views on science and knowledge are based on this work whose probabilistic approach to knowledge suited him well. Therefore, it is no surprise that this is the treatise of the *Logica nova* that John knows best, but even his reading of the *Topics* is not always very thorough. As regards the *Posterior Analytics*, the major Aristotelian work on knowledge and science, I argue that John's attitude towards the text is the result partly of his probabilistic inclinations, partly of his somewhat limited understanding of demonstrative science, and partly of his lack of knowledge of the treatise itself. As regards the last point, I argue that John may actually never have read the treatise in its entirety, and, even if he did, he certainly did not find much useful in it. At least, I believe it can be shown that it was not the text from which he had his general knowledge of demonstrative science.

The general Conclusion is used to summarize the results and point to some of the perspectives resulting from my investigations. To mention only three, the picture that emerges of John's understanding and use of the Aristotelian texts, and the *Posterior Analytics* in particular, seems to say a lot about general education at the highest level in the crucial period c. 1125–50. Second, the book provides new knowledge that can be used to establish the foundation for studies of the demonstrative theories and use of the *Posterior Analytics* in the thirteenth century, beginning with Robert Grosseteste's refined commentary. Third, and finally, even though the philosophical aspects are dominant, the results in this book should be of use for anyone interested in John of Salisbury's biography and his general outlook.

In Appendix 1, I conduct an investigation of the problem concerning the identity of John's opponent in the *Metalogicon*, Cornificius. This has been a major topic in modern scholarship, and, although this discussion is not directly relevant to the purpose of the present book, my analysis will throw light on the 'identity' of Cornificius. I argue that we may not be able to identify a single person, but that the Cornifician theory almost certainly arose in Adam of Balsham's school, or among scholars who held views very similar to the Parvipontanean ones.

In Appendix 2, I list, for easy reference, the contents of Thierry of Chartres's important *Heptateuchon*. This compendium of texts provides us with the possibility of seeing which texts were available to scholars and students in the best schools of the second quarter of the twelfth century.

JOHN OF SALISBURY'S STUDIES

1.1. John of Salisbury in France

Few men of the twelfth century could boast of the kind of education that John of Salisbury received. For twelve years he studied in France with practically all the greatest masters of his time: Abelard, Robert of Melun, William of Conches, Thierry of Chartres, Peter Helias, and Gilbert of Poitiers, to mention only some of the most prominent.¹ Adam of Balsham was another very notable master, who was not John's teacher, as he stresses, but with whom he still discussed philosophical and scientific issues on a personal basis.²

Besides these educational opportunities, he was also socially acquainted with a number of high-ranking, influential, and intelligent people, like Bernard of Clairvaux and Thomas Becket, who supported him and made use of his skills at different stages of his life. And finally, having completed his studies in 1147/8, he spent much time in the following years travelling. In particular, he made several journeys to Italy where among other things he came into contact with Greek learning³ and with the Papal curia; in some periods he enjoyed a very close friendship even with the pope himself, especially while under the rule of the Englishman Adrian IV (1154–59),⁴ but he also had negotiations with

¹ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, pp. 70–73. See also John of Salisbury, *Metalogicon*, ed. by Hall, I.5, pp. 20–22.

² John of Salisbury, *Metalogicon*, ed. by Hall, II.10, III.prologus, III.3, IV.3, pp. 72, 102, 114, 142.

³ John of Salisbury, *Metalogicon*, ed. by Hall, II.15, III.5, IV.2, pp. 37–39, 119–20, 141.

⁴ John of Salisbury, *Metalogicon*, ed. by Hall, IV.42, pp. 183–84. On Adrian IV, see *Adrian IV*, ed. by Bolton and Duggan.

Eugenius III (1145–53) and Alexander III (1159–81). John of Salisbury was a truly learned and versatile man, who would seem to be well versed in the sciences and scholarship of his day, and to have an excellent understanding of the political and practical aspects of dealing with all sorts of high-level officials.

The subject of this book is John's views on, and understanding of, knowledge and science, and therefore the kind of education he received in Paris, and perhaps in Chartres,⁵ is of particular importance. This education is well described by John himself.⁶ In the most famous chapter of the *Metalogicon*, namely, II.10, John provides an extensive account of his days as a student in France, and a number of fascinating portraits of his teachers.⁷ It must be noted, however, that his intention is not primarily autobiographical; rather, the chapter is 'part of his purpose in examining and criticising aspects of twelfth-century education'.⁸

1.1.1. John of Salisbury's Own Education

It was only natural that John would begin his studies by going to Mont Ste Geneviève,⁹ which meant going to learn from the best and most famous master of his time, Peter Abelard. From him he apparently learned only the basic elements of logic (*prima artis huius rudimenta*). Much to John's disappointment, Abelard left Paris shortly after John's arrival, leaving him with two other teachers, a certain master Alberic and one Robert of Melun. These three men were John's teachers in

⁵ On the discussions concerning a possible 'school of Chartres', see Keats-Rohan, 'John of Salisbury and Education', pp. 8–12 (p. 36, n. 46 for bibliography), and Nederman, *John of Salisbury*, pp. 4–5, for brief overviews. For a general description, see Wetherbee, 'The School of Chartres', pp. 36–44. Against the existence of such a school, see Southern, *Scholastic Humanism*, pp. 58–101, but the argument was originally stated in previous articles; for criticism of Southern, see, for example, Dronke, 'New Approaches to the School of Chartres', pp. 117–40; Häring, 'Chartres and Paris Revisited', pp. 268–329; Weijers, 'The Chronology of John of Salisbury's Studies', pp. 109–16; Wetherbee, 'Philosophy, Cosmology, and the Twelfth-Century Renaissance', pp. 21–53; Marenbon, 'Humanism, Scholasticism and the School of Chartres', pp. 569–77.

⁶ For general descriptions of the education that John received, see Keats-Rohan, 'John of Salisbury and Education'; Nederman, *John of Salisbury*, pp. 2–19. For works on John's own theory of education, see McGarry, 'Educational Theory in the *Metalogicon*', pp. 659–75, briefly criticized by Hendley, 'A New Look at John of Salisbury's Educational Theory', pp. 502–11.

⁷ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, pp. 70–73.

⁸ Keats-Rohan, 'John of Salisbury and Education', p. 12.

⁹ For the schools at Mont Ste Geneviève, see De Rijk, *Logica Modernorum*, II.1, pp. 146–50, as well as De Rijk, 'Some New Evidence', pp. 1–66.

his first two years in Paris, and at the end of this period he felt thoroughly capable in logic. In fact, he describes himself as almost intoxicated by his own knowledge and abilities.¹⁰ But then he regained his senses and studied grammar for the next three years (1137/8–1140/1) with William of Conches as his teacher. Next followed a period in which John studied under Richard 'the Bishop', with whom he reviewed his previous studies. At the same time he was also taught the basics of the *quadrivium*, to which he had at some earlier time been introduced by Hardewin the German.¹¹ He also learned more about rhetoric, which was a subject that he had already studied a little with a master Theodoric (probably Thierry of Chartres) 'along with certain other subjects' (*cum quibusdam aliis*).¹² More substantial studies of rhetoric followed with Peter Helias, but apparently John was then forced to spend a period teaching children of noblemen in order to support his livelihood. When he returned to study, Gilbert of Poitiers instructed him in both theology and logic, and when Gilbert left (another disappointing occurrence for John), Robert Pullen and Simon of Poissy continued teaching John theology but not logic. This period lasted until 1147/8.

The precise chronology and progress of John's studies are much-disputed issues.¹³ John is clear about his studies of logic and grammar, but the precise details concerning his studies of the *quadrivium*, rhetoric, and theology are more uncertain. Among other things, this means that it is difficult to establish how much he heard from one of the most notable Aristotelians of the period, Thierry of Chartres.¹⁴ Still, John does describe his studies as progressing from one branch

¹⁰ See the passage cited on p. 8 and in n. 30.

¹¹ Bloch, 'John of Salisbury, the *Quadrivium*', pp. 335–45. McGarry, 'Educational Theory in the *Metalogicon*', pp. 664 and 671, suggests that John also relied on Martianus Capella, Boethius, Bernard and Thierry of Chartres, and Hugh of St Victor as regards the *quadrivium*. There is, as far as I know, no evidence to substantiate his suggestion.

¹² Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 231, and more cautiously at p. 242, n. 60, says that Thierry also instructed John in the *quadrivium*. Thierry probably did instruct many students in the *quadrivium*, see the epitaph, verses 21–22, in 'Une épitaphe inédite de Thierry de Chartres', ed. by Vernet, p. 670, although the evidence is surprisingly slight. But nothing in John's text indicates that he also received such instruction. In fact, John seems not to have known Thierry as well as he knew his other teachers, despite the fact that Thierry was certainly one of the most prominent teachers in the 1130s and 1140s. See Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 234–35, 242–43.

¹³ See Liebeschütz, *Mediaeval Humanism*, pp. 111–13; Guth, *Johannes von Salisbury*, pp. 34–39; Weijers, 'The Chronology of John of Salisbury's Studies'; Keats-Rohan, 'The Chronology of John of Salisbury's Studies', pp. 193–203; Nederman, *John of Salisbury*, pp. 2–11.

¹⁴ See Ward, 'The Date of the Commentary on Cicero's *De inventione*'. On Thierry's

to the other, and therefore a relative chronology of his studies can be established with reasonable certainty.¹⁵ On the above interpretation, then, the outcome can be schematized as follows:

- Logic
- Grammar and perhaps introduction to the *quadrivium*
- *Quadrivium* and elementary rhetoric — and review of John's knowledge of logic and grammar
- Rhetoric
- Theology and logic (Gilbert of Poitiers)
- Theology (Robert Pullen and Simon of Poissy)

This description of John's education reveals that he was thoroughly trained in the *trivium*. Logic was the first subject that he studied, and throughout his life he would always believe that this was a necessary discipline or tool in philosophical and scientific work. However, in the *Metalogicon* he is also of the opinion that grammar naturally precedes logic proper.¹⁶ It is true that grammar is also called part of logic in the broad sense of the latter,¹⁷ but in John's descriptions in *Metalogicon*

Aristotelianism, see the epitaph printed in 'Une épitaphe inédite de Thierry de Chartres', ed. by Vernet, in particular verses 1–2, and Speer, 'La découverte de la nature', p. 52, for the fact that twelfth-century Aristotelianism was very much a 'Boethian' Aristotelianism. Of course, and, from a modern perspective, perhaps paradoxically, Thierry was also a well-known Platonist. See, for example, Hermann of Carinthia, *De essentiis*, ed. by Burnett, pp. 20–25.

¹⁵ Pace Liebeschütz, *Mediaeval Humanism*, pp. 111–13. It must be granted, however, that John is likely to have learnt more than just logic from Abelard, and he must have learned more than just grammar (in our limited sense of the word), at least poetry and some ethics, from William of Conches, to take only two examples. John never describes William's methods of teaching, but in a well-known chapter of the *Metalogicon* he describes Bernard of Chartres's methods, and he informs us that William used approximately the same: John of Salisbury, *Metalogicon*, ed. by Hall, 1.24, pp. 51–55.

¹⁶ See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, 1.13, p. 32: 'Est enim grammatica scientia recte loquendi scribendique, et origo omnium liberalium disciplinarum' (For grammar is the knowledge of how to speak and write correctly, and the origin of all the liberal disciplines). Compare Hugh of St Victor, *De grammatica*, ed. by Baron, p. 76; Thierry of Chartres's prologus to the *Heptateuchon*, in 'Le Prologus in Eptatheucon de Thierry de Chartres', ed. by Jeaneau, p. 174; Guillaume de Conches, *Dragmaticon philosophiae*, ed. by Ronca, VI.27.5, p. 272, but excised, as a secondary supplement, by Ronca.

¹⁷ John of Salisbury, *Metalogicon*, ed. by Hall, 1.13, p. 32: 'Harum autem omnium [scil. artium liberalium] prima est logica, ab ea tamen sui parte quae in prima sermonum institutione versatur, ut nomen logices, sicut iam dictum est, quam latissime pateat, et non modo ad disserendi

II.10 he carefully distinguishes between logic/dialectic and grammar, and in another passage he even leaves open the question of whether grammar is part of logic.¹⁸ In any case, *first* he learned logic, *then* he learned grammar, and judging by his sarcastic remarks on the effects that pure logic had on him in his youth, he did not like that procedure when looking back some twenty years later. To complete his studies in the *trivium*, John then learned rhetoric, apparently rather thoroughly with a number of highly qualified teachers. Thus, at the end of his first five years of study he would seem to be a scholar of high formal competence in the *trivium*, and this competence must have been further enhanced by the one year of study with Gilbert of Poitiers who taught him both theology and logic.

In the *quadrivium*, in contrast, John seems to have received very little instruction.¹⁹ On the one hand, this is somewhat strange, since John believes that the combination of *trivium* and *quadrivium* makes a person generally able to understand the nature of man and the world he lives in: the *trivium* enables him to master language, whereas the *quadrivium* provides the understanding of nature. This was a view often expressed in the twelfth century, but real knowledge of both disciplines was rare.²⁰ For a man of practical orientation such as John, it would seem odd that he should ignore the disciplines concerned with the world around him. Certainly, one could argue that they were not relevant to the thesis of the *Metalogicon*, but this does not explain why John received little instruction in these subjects. Also, as C. Grellard points out to me, the prologues of both the *Policraticus* and the *Metalogicon* indicate that John would, in fact, have liked to be a man of philosophy but was forced instead to be a man of action, simply because he needed money. This is true, and there is no question that John con-

scientiam contrahatur' (Now, of all the liberal arts logic is the first, but it derives from the part of itself that is concerned with the first application of words; thus, as has already been said, 'logic' is a term of extensive application and not just confined to the knowledge of rational arguments). See also John of Salisbury, *Metalogicon*, ed. by Hall, I.10, p. 28, as well as, for example, Hugh of St Victor, *Epitome Dindimi in philosophiam*, ed. by Baron, pp. 192, 195, 200, 205.

¹⁸ John of Salisbury, *Metalogicon*, ed. by Hall, II.prologus, p. 56.

¹⁹ On this subject, see also Evans, 'John of Salisbury and Boethius', pp. 161–67; Bloch, 'John of Salisbury, the *Quadrivium*'.

²⁰ John of Salisbury, *Metalogicon*, ed. by Hall, I.12, p. 31; and John of Salisbury, *Metalogicon*, ed. by Hall, III.3, p. 111, on mathematics as following, and imitating, nature. Compare Peter Abelard, *Letters IX–XIV*, ed. by Smits, no. XIII, p. 272 (on *dialectica* and *arithmetica* [apparently meaning the entire *quadrivium*] as particularly necessary disciplines); the prologue to the *Heptateuchon*, in 'Le Prologus in Eptatheuchon de Thierry de Chartres', ed. by Jaeneau, pp. 174–75; and the epitaph of Thierry of Chartres, verses 21–22, in 'Une épitaphe inédite de Thierry de Chartres', ed. by Vernet, p. 670.

sidered philosophy much more important than the trivial matters of diplomacy. Even so, whether he originally wanted to or not, John did develop into a thinker who focused on action rather than theory.

There is a substantial amount of evidence that seems to prove that John had only a limited knowledge of the *quadrivium*.²¹ He had two teachers, Richard ‘the Bishop’ and Hardewin the German, but in both cases it seems that tuition was elementary and of secondary importance.²² Consequently, he seems already from this observation to have been much less well informed as regards the subjects of arithmetic, geometry, astronomy,²³ and music²⁴ than he was concerning the *trivium*. It has been argued that my claim about John’s limited knowledge of the *quadrivium* needs to be qualified. For, John of Salisbury probably had more knowledge even of these matters than many other masters and students of his day. For instance, John is certainly no less informed than Hugh of St Victor; in fact, they seem to have rather similar knowledge. However, John could, I would argue, have done much better. Not only is he much inferior to authors such as Adelard, who had learned from the Arabic tradition; but he had not even sifted all he could from Thierry and the tradition of Chartres. Even if John had only studied the *Heptateuchon*, he would have been well informed about much of the *quadrivium*.²⁵

Furthermore, his limited knowledge of the *quadrivium* is indicated by a passage concerned with the *Posterior Analytics*; and the same passage might also help to explain the fact that he apparently has only limited respect for this, Aristotle’s most important, scientific treatise.²⁶ For, he explains, strictly speaking

²¹ Evans, ‘John of Salisbury and Boethius’, for a slightly more optimistic verdict.

²² John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 72: ‘et quae ab aliis audieram ab eo cuncta relegi, et inaudita quaedam ad quadrivium pertinentia, in quo aliquatenus Teutonicum praeaudieram Hardewinum’ (and with him [Richard ‘the Bishop’] I reviewed the things that I had learned from my former teachers, as well as some matters concerning the *quadrivium* that I had not learned; concerning the latter [*scil.* the *quadrivium*] I had previously learned to some extent from Hardewin the German).

²³ On astronomy, see John of Salisbury, *Policraticus*, ed. by Keats-Rohan, bk II (passim). I owe the reference to C. Grellard, who also points out to me that John seems to be more interested in the practical consequences of astronomy than in the theoretical aspects.

²⁴ On music, see John of Salisbury, *Policraticus*, ed. by Keats-Rohan, bk I, chap. 6. Again, I thank Grellard for pointing me to this chapter, which seems to be a rather conservative and limited discussion of the subject.

²⁵ For the contents of the *Heptateuchon*, see below Appendix 2.

²⁶ See below 4.2.4–4.2.7.

this text is relevant only to mathematicians, and only barely so; and even among the mathematicians, it is primarily of relevance to geometers.²⁷ It is not so relevant to philosophers or scientists.

Now, the truth of this statement can be evaluated only (a) by someone with a thorough understanding of the theories found in the *Posterior Analytics*, or (b) by someone capable in mathematics, even if he has only a limited understanding of the Aristotelian treatise. To obtain a proper evaluation one needs to be able to do both, but partial evaluation can also be made by a person who is thoroughly capable in only one of the two mentioned areas. To judge from the relevant passages of the *Metalogicon*, John's understanding of the *Posterior Analytics* is rather poor.²⁸ But, as is proved by the discussions that were to take place in the thirteenth century, the medievals soon learned to use it to good effect on many subjects other than the ones specified by John. In fact, his statements to the effect that the treatise is of possible value only to geometry, and the additional remark to the effect that this discipline is not something that the Latins cultivate very much, prove that John was not thoroughly acquainted with these matters. But if he represents neither the a-person nor the b-person, then his attitude towards the *Posterior Analytics* is only natural. This is particularly the case, if, as I shall later argue, his statements are not primarily expressions of his own considered view, but instead reflect what he was taught and accepted in Paris at least twenty years earlier.²⁹

The question why John was not very capable in, and did not spend much study on, the *quadrivium* during his studies in France is important, but unfortunately I can offer only speculative answers.

²⁷ John of Salisbury, *Metalogicon*, ed. by Hall, iv.6, p. 145: 'demonstrationis usus vix apud solos mathematicos est, et in his fere apud geometras dumtaxat. Sed et huius quoque disciplinae non est celebris usus apud nos' (the mathematicians are the only ones to use demonstration, and they too barely use it; even among them, it is used almost exclusively by the geometers. However, this discipline is not one that is frequently used among us either). The entire chapter is quoted below pp. 125–26 and n. 206. On principles in geometry, see also John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 114–17 (bk VII, chap. 7), which is based on Boethius rather than Euclid.

²⁸ See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, II.13, iv.6–8, pp. 74–76, 145–47.

²⁹ So also Guth, *Johannes von Salisbury*, pp. 64–65. For more on this issue, see below Chapter 4. It is also to be noted that the whole of John of Salisbury, *Metalogicon*, ed. by Hall, iv.6, contains a remarkable number of words signifying hesitation on John's part: *fere*, *forte*, and *vix*. In John of Salisbury, *Policraticus*, ed. by Webb, II, p. 98 (bk VII, chap. 2), John explicitly acknowledges that the use of such words is the proper academic procedure when in doubt.

First, John's interest in logic during his studies is probably important in this respect. Among other things he says:

Having been trained by these men [*scil.* Abelard, Master Alberic and Robert of Melun] for two full years, I became so accustomed to the identification of the topics, the rules and the other elementary principles, which the young minds are first taught, and in which the previously mentioned masters were experts, that all these [*scil.* the topics, rules and principles] seemed to be as familiar as my own nails and fingers. For I had learned this subject [*scil.* logic] so completely that I, with youthful shallowness, exaggerated my knowledge to a large extent. Since I was capable on the issues that I had learned, I considered myself very wise for my age. But then I returned to myself and evaluated my powers [properly].³⁰

This is a rather charming description of a young man, twenty years old at most, who became enchanted by the power of logic. There was nothing uncommon about this in the twelfth century. John's own teacher, Abelard, was, perhaps not surprisingly, almost consumed by logic in his youth,³¹ and John's description of the proceedings at Mont Ste Geneviève proves that the old master could still inspire the same excitement. In John's case the excitement did not simply wear off; it was merely tempered, as the whole argument of the *Metalogicon* also testifies. Only a few years later, in the early 1140s, we find him once again immersed in logic, this time studying it in combination with theology, and with Gilbert of Poitiers as his teacher.³² It would seem that logic, in a broad sense of the word, simply had a very strong appeal to John, and this, I would suggest, led him to disregard other theoretical studies. As is relatively clear from his remarks in the *Metalogicon*, Abelard and Gilbert were his favourite teachers,³³ of whom Abelard

³⁰ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 71: 'Apud hos toto exercitatus biennio, sic locis assignandis assuevi et regulis, et aliis rudimentorum elementis quibus pueriles animi imbuuntur, et in quibus praefati doctores potentissimi erant et expeditissimi, ut haec omnia mihi viderer nosse tamquam ungues digitosque meos. Hoc enim plane didiceram, ut iuvenili levitate pluris facerem scientiam meam quam erat. Videbar mihi sciolus, eo quod in his quae audieram promptus eram. Deinde reversus in me et metiens vires meas.'

³¹ Peter Abelard, *Historia calamitatum*, ed. by Monfrin, p. 63: 'et quoniam dialecticarum rationum armaturam omnibus philosophiae documentis praetuli' (and since [in my youth] I preferred the equipment provided by dialectic to all the other kinds of philosophy). Logic probably never lost its appeal for him, but he also came to criticize excessive subtlety in logic. See Peter Abelard, *Dialectica*, ed. by De Rijk, IV.1, pp. 469–71.

³² It is interesting to note that logic is mentioned before theology in John's description of the subjects that he studied with Gilbert. See the text in the following note.

³³ John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, VIII, p. 16, mentions both as 'the men most famous for their learning' (*viri in litteris famosissimi*). On Abelard, see further John

was unquestionably among the leading logicians of the time, and Gilbert is likely to have been prominent as well. True, John studied grammar and rhetoric as well, but these subjects were closely connected with, and relevant to, the study of logic. In fact, the term 'logic' could be used to refer to the entire *trivium*.³⁴

Equally true, he studied theology for a long time, but this discipline was the queen of sciences, and he had an excellent teacher in Gilbert of Poitiers who showed him that theology could in any case be combined with a study of logic. As we have seen, he did not study the *quadrivium* beyond an elementary level; even more importantly, he only came to study law in later life, and we do not know the details about how he acquired his knowledge of law.³⁵ This is a subject that would have been excellently suited for John, who was to be a diplomat for the next twenty to twenty-five years, but it seems that it never appealed to him. In the prologue to the *Metalogicon* and elsewhere he refers without much sympathy to the affairs of the courts, that is, the public affairs that he had at the time been engaged in for more than ten years.³⁶ His real intellectual interests lay elsewhere, namely, in philosophy and, at the time of his studies, in logic.

Second, as regards the lack of knowledge of the *quadrivium*, one might also suspect that John is not expressing a considered view when he says that *quadrivium* enables one to understand the world, and that general understanding is obtained by knowing both the *trivium* and the *quadrivium*. The section in which the

of Salisbury, *Metalogicon*, ed. by Hall, II.10, pp. 70–71: 'qui [scil. Peripateticus Palatinus] tunc in monte sanctae Genovefae clarus doctor, et admirabilis omnibus praesidebat. Ibi ad pedes eius prima artis huius rudimenta accepi, et pro modulo ingenioli mei quicquid excidebat ab ore eius tota mentis aviditate excipiebam' (who [scil. Abelard] was then teaching at the Mont Ste Geneviève. He was a famed master and admired by all. At his feet I learned the rudiments of this art [scil. logic], and with my limited abilities I greedily absorbed everything that came out of his mouth). On Gilbert, see John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 72: 'Reversus itaque in fine triennii repperi magistrum Gilbertum, ipsumque audiui in logicis et in divinis, sed nimis cito subtractus est' (When I returned after three years, I sought out Master Gilbert, and I was taught in logic and theology by him. Unfortunately, he was transferred [scil. to become bishop of Poitiers] all too soon). See also John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, VIII, XIII, pp. 15–16, 28, for descriptions of Gilbert as 'the most learned man of our time' (vir aetate nostra litteratissimus), 'a man with the most penetrating intellect' (vir ingenii perspicacissimi), and 'the most excellent expositor of grace among the scholastic doctors of our time' (inter scholasticos aetatis nostrae doctores excellentissimus gratiae praedicator).

³⁴ John of Salisbury, *Metalogicon*, ed. by Hall, I.10, I.13, II.prologus, II.3, pp. 28–29, 32–33, 56, 59–60. See also Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, II.28, pp. 44–45.

³⁵ See John of Salisbury, *The Early Letters*, ed. by Millor, pp. xix–xxiii.

³⁶ John of Salisbury, *Metalogicon*, ed. by Hall, I.prologus, pp. 9–11.

statement occurs is a chapter reserved for a kind of praise of the seven liberal arts, and perhaps one should simply regard this as an encomiastic phrase.³⁷ It should also be noted that a similar statement is found in Hugh of St Victor's *Didascalicon* and in other writers of the twelfth century, and thus it is likely to be a *topos*.³⁸

In any case, John does not know the *quadrivium* as well as he knows the *trivium*, and I believe that the reason for this is most likely to be that logic was the subject of most of his studies in France. I would argue that it was much more important than is usually assumed in modern works on John's studies and views. In this regard, the passage on John's youthful approach to logic cited above has misled a number of scholars. The *Metalogicon* itself bears clear witness to the fact that logic handled correctly is both important and interesting.

But even though logic was the most time-consuming study during his twelve years in France, the level of competence John achieved in it is open to debate. John was after all a man of action rather than theory, and his preference for action became a more and more pronounced feature of his life already during his studies. Thus, he enjoyed his first two years of study at Mont Ste Geneviève, but when he returned some years later, perhaps around the end of his studies, to consult with his former fellow students and teachers, he was appalled by what he saw. More light will be shed upon John's attitude to, and abilities in, logic in the next section on John's teaching of the children of noblemen.

As regards his last studies in France, theology was the main subject; and for many years it was, apparently, the only one. When he left France, he was thoroughly trained in this subject.

* * *

The above describes John's progress and different kinds of studies during his twelve years in France. But more can be said concerning his level of competence based on the probable procedures of the classrooms to which he was exposed. In a

³⁷ John of Salisbury, *Metalogicon*, ed. by Hall, I.12, pp. 31–32. The chapter is entitled 'Unde artes dicantur liberales' (Why [the Seven] Arts are Called Liberal). Compare the *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 49, p. 38, on the fact that the seven arts are to be conceived simply as 'a remedy against ignorance' (remedium [...] contra ignorantiam).

³⁸ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, III.3, pp. 52–54; *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 19, p. 35. See also Thierry of Chartres, *Tractatus de sex dierum operibus*, 30, in *Commentaries on Boethius*, ed. by Häring, p. 568; Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, pp. 75–76; Godefroy de Saint-Victor, *Fons philosophiae*, ed. by Michaud-Quantin, verses 329–456, pp. 46–48.

fascinating chapter of the first book of the *Metalogicon*, John describes the teaching methods of Bernard of Chartres, methods that were obviously inspired by and derived from Quintilian, who was well known but primarily through florilegia.³⁹ John lived too late to witness Bernard's teaching himself, but he informs us that his own teachers William of Conches and Richard 'the Bishop', who were both former students of Bernard's, used the same methods as he did,⁴⁰ and thus the description may be accepted as representing the teaching that John experienced. Apparently, this teaching contained a wealth of elements, both theoretical and practical. Authoritative authors (*auctores*) were the major source for grammatical learning, and Bernard would read them with his students, explain the individual sentences, and explain what made them conform to grammatical (and rhetorical) rules. However, John stresses repeatedly that Bernard insisted on *simplicity* in the sense that he did not try to teach his pupils everything at once. Instead he was careful to teach in accordance with the students' individual capabilities, and he was especially careful to repeat often the most fundamental rules of the discipline that he was teaching, that is to say, grammar. He also recognized the importance of practical training, and therefore he included several exercises in both speaking and writing. John describes all this and more in some detail, and he insists that no one who stayed with Bernard for a year or more, and who was not a complete idiot, would be able to leave his school without being a competent grammarian.

Bernard's teaching appears very impressive indeed. The breadth of his treatments of grammatical theory was encyclopaedic, and his pedagogical skills were obviously on a very high level. It is not, however, clear to what depths he explored the subjects while teaching. In fact, John's description indicates a teaching course which provided the students with a thorough, broad, and fundamental understanding of the relevant subjects but no expert capability in any part of grammar. In particular, the stress that he and Bernard put on the virtue of simplicity, even to the possible detriment of precision, is a clear sign that general, and practical,

³⁹ For the following, see John of Salisbury, *Metalogicon*, ed. by Hall, 1.24, pp. 51–55. McGarry, 'Educational Theory in the *Metalogicon*', p. 663: 'Quintilian's *Education of the Orator* is probably a more fundamental source than any other single work concerning pedagogical method and the rich content of "grammar." McGarry refers to John of Salisbury, *Metalogicon*, ed. by Hall, 1.19–25, pp. 44–55, for the evidence; and see McGarry, 'Educational Theory in the *Metalogicon*', p. 674 with notes 156–57, for more sources.

⁴⁰ John of Salisbury, *Metalogicon*, ed. by Hall, 1.24, p. 54: 'Ad huius magistri formam praeceptores mei in grammatica Willelmus de Conchis et Ricardus cognomento Episcopus [...] suos discipulos aliquamdiu informaverunt' (For some time my own teachers in grammar, William of Conches and Richard 'the Bishop', taught their students using Bernard's method).

understanding was considered more important than expert knowledge of the more sophisticated and theoretical matters of the discipline. There is evidence to show that simplicity and carefully structured teaching were important elements in twelfth-century teaching.⁴¹

As I will argue in the next section, this all accords well with John's general outlook and views on education and knowledge.

1.1.2. *John of Salisbury's Teaching*

John had to teach the children of noblemen in the early 1140s. Unfortunately, only limited, albeit tantalizing, reports of his teaching are available, but even these descriptions throw much light on John's general attitude to study and the sciences.

Only one of his students, William of Soissons, is mentioned by name,⁴² and John informs us that he taught him 'the first elements of logic' (*prima logices elementa*). His description is brief but firm:

In the meantime I taught the first elements of logic to William of Soissons. As related by his followers [friends?], he later invented a siege machine that was intended to destroy the old elements of logic by generating unacceptable consequences and demolishing the views of the ancient thinkers. Having finished my instruction, I sent him to the aforementioned teacher [*scil.* Adam of Balsham 'Parvipontanus'], and perhaps it was there that he learned that the same [*scil.* conclusion] can be inferred from either part of a contradiction, even though Aristotle denies this [...]⁴³

⁴¹ Thierry of Chartres's prologus to the *Heptateuchon*, in 'Le Prologus in Eptattheuchon de Thierry de Chartres', ed. by Jeuneau, p. 175; Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 28 (the pupil talking to his teacher): 'Sufficient ista praemissa legis auctoribus necessaria. Restat nunc, ut, sicut promiseras, a minoribus incipias et sic ad maiores pervenias: lac praemittas parvulis, cibum solidum ablactatis' (Let the things that you have now said, which are necessary in order to read the authoritative authors, suffice. It now remains that you do as you promised, starting from the more simple authors and proceeding to the more advanced ones. First, give milk to the babies, and when they are weaned, give solid food).

⁴² Peter of Celle and Peter of Blois have sometimes been mentioned as other possible students of John's, but no positive evidence exists to prove or disprove the suggestions. See Nederman, *John of Salisbury*, pp. 9–10.

⁴³ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 72: 'Interim Willelmum Suessionensem qui ad expugnandam ut aiunt sui logicae vetustatem, et consequentias inopinabiles construendas et antiquorum sententias diruendas machinam postmodum fecit, prima logices docui elementa, et tandem iam dicto praeceptoris apposui. Ibi forte didicit idem esse ex contradictione, cum Aristoteles obloquatur.'

It is not easy to establish precisely what kind of (siege) machine, that is (presumably), what kind of standardized procedure for reasoning, argumentation, and entailment William invented, and I shall not try to do so.⁴⁴ John does not himself care about the niceties of the machine; in fact, as soon as he has heard what it can do, he does not want to know anything more about it, since he thinks the results it produces are blatantly false. This may also be the reason why he does not note that William might actually have found the basis for his views in Boethius and/or Abelard.⁴⁵ He simply quotes Aristotle to disprove William and adds that he will never, no matter what, believe anything produced by this kind of machine.

This episode is revealing as regards John's approach to logic. On the one hand, he does not like what he hears from William, and he blames Adam of Balsham and his school for the sad turn that William's philosophical studies had taken *after* (*postmodum*) John had himself suggested (*dicto praeceptori apposui*) that he join Adam and his disciples, the Parvipontani. One might then expect that John would not be very proud of William, but to some extent he appears to be so; otherwise it would be strange to mention his name at all. Indeed William seems to have been an excellent logician and mathematician, and to have been much respected in his day. In the passage quoted above, William is even said to have had followers (*ut aiunt sui*), even though the *sui* is ambiguous and may simply refer more generally to friends or fellow philosophers — most likely the Parvipontani. The testimony of William of Tyre, who was taught by William of Soissons, reveals that at least in mathematics, or more specifically in Euclidean geometry, our William was a brilliant man.⁴⁶ And the William mentioned as a leading contemporary geometer at the end of an English introduction to Boethius's *De arithmetica*, edited and named the 'Coventry Introduction' by C. Burnett, is probably William of Soissons.⁴⁷

Furthermore, John will claim responsibility only for the introduction to logic that he taught William; according to John, the blame for later developments in

⁴⁴ For two different attempts to explain it, see Kneale and Kneale, *The Development of Logic*, p. 201; Martin, 'William's Machine', pp. 564–72. See also Jacobi, 'Logic (ii)', p. 232. Prantl, *Geschichte der Logik*, II, pp. 231–32, n. 522, gave up: 'Selbst abgesehen davon, worin denn diese Räthselhafte *machina* bestanden haben soll, ist mir diese ganze Stelle, deren Text wohl auch verdorben sein mag, völlig unverständlich geblieben.'

⁴⁵ See Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', p. 119 with his n. 3.

⁴⁶ Guillaume de Tyr, *Chronicon*, ed. by Huygens, verses 19, 12 (II (63A), 881). I see no reason to suspect that this is not our William of Soissons. For what I believe to be an overly cautious approach, see Keats-Rohan, 'John of Salisbury and Education', p. 16.

⁴⁷ *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 81, p. 42.

William's logical theory falls on Adam of Balsham. This is somewhat strange, since William's theories as described in the *Metalogicon* are exactly of the kind that would spring naturally from Adam's school.⁴⁸ The results of William's studies are exactly what would be expected, and therefore it is strange that John sent him to the Parvipontani in the first place.⁴⁹ Apart from the simple fact that Adam had helped John to understand difficult subjects so that John might have felt an obligation to return the favour, there may be two further, interconnected reasons for this.

First, John and Adam shared some basic principles of how to obtain knowledge, and on the workings of human nature.⁵⁰ But second, he seems not to have known Adam's teaching and his school as well as he would sometimes like us to think. Just before the description of William of Soissons, he has the following remarks on Adam of Balsham:

As a consequence [*scil.* since I, John, while teaching, often had to recall what I had previously learned], I established a close friendship with Master Adam, a man of extremely sharp intellect, and the one who drew on Aristotle more than any other thinker, despite what other people of much learning think. Even though he was not my teacher, he kindly shared his views with me and explained them very clearly, which he never, or only rarely, did to others. For he was reputed to suffer much from [intellectual] jealousy.⁵¹

It appears that Adam ran a somewhat exclusive school,⁵² and John is rather proud that he has had a glimpse of what he believes to be his teaching. Furthermore, as I

⁴⁸ See Martin, 'William's Machine', p. 571. For Adam of Balsham himself and his major extant work on logic, namely, the *Ars disserendi*, see Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham'; Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello; and see also Appendix 1 below.

⁴⁹ J. B. Hall and A. L. Ritchie point out to me that William may himself have wanted to go to Adam's school. This is true, but it seems to me that the wording (*dicto praeceptori apposui*) clearly indicates that John pointed the direction.

⁵⁰ See below 4.2.8 (p. 175, n. 439 in particular) and Appendix 1.

⁵¹ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 72: 'Unde ad magistrum Adam acutissimi virum ingenii, et quicquid alii sentiant multarum litterarum, qui Aristoteli prae ceteris incumberebat, familiaritatem contraxi ulteriorum, ut licet eum doctorem non habuerim, mihi sua benigne communicaret, et se quod aut nulli faciebat, aut paucis alienis, mihi patentius exponerebat. Putabatur enim invidia laborare.'

⁵² 'Die Metamorphose des Goliath', ed. by Huygens, verses 193–96, p. 771. Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 228, n. 20, even points to *insipientia* as a trait of character found in the descriptions of both Adam and Cornificius. It seems that competition and jealousy among masters of the mid-twelfth century were common: Ward, 'The

will show in Appendix 1, they shared, to some degree, views on the epistemological foundation of human beings, and it would also appeal to John that Adam was particularly well versed in Aristotle; after all, the entire *Metalogicon* is an argument in favour of introducing the Aristotelian *Organon* into mid-twelfth-century education.⁵³ But it may well be that John thought he had seen more than he really had. Adam had helped him on a number of philosophical issues, but this does not mean that John had direct access to his school, even though he himself seems to think that he had. Thus, if John had experienced Adam primarily as an extremely intelligent and helpful master, who was more willing to learn from Aristotle than any other teacher in Paris, and who was even an Englishman,⁵⁴ there would be every reason to send William to him — perhaps with a warning to associate primarily with Adam himself, not with his more degenerate students.⁵⁵

Of course, to some extent, John must have known that the Parvipontani operated with a very sophisticated kind of logic, but this in itself will not have bothered him. After all, his most cherished master, Peter Abelard, was one of the most sophisticated logicians of the entire Middle Ages. However, the trouble for John was that, for him, William's approach to logic was impractical, just as that of Abelard's followers, and sometimes even Abelard's, was. In William's case, there was the further problem that the logical theory was, in John's opinion, simply wrong, although John does not prove this. He simply states this as a fact: the results produced by William's machine do not accord with John's own views that are based on sound practical reasoning and the use of his own senses.

This is very significant when one evaluates John's interests and abilities in logic. He is certainly well educated and competent in logical theory and practice, but he is not *interested* in logic *qua* logic. For him, logic has to be *useful*. A machine

Date of the Commentary on Cicero's *De inventione*, p. 237. See also John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, VIII, p. 16 on a possible case of jealousy concerning Gilbert of Poitiers's enemies; Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, p. 4; John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 1719–36, pp. 217–19; and Thierry of Chartres, *Commentarius super De inventione*, prologus partis secundae, in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg, pp. 107–08, for Thierry's own description of other scholars' defaming of his teaching. Nonetheless, it must also be noted that 'jealousy' and 'envy' were to some extent *topoi* in the twelfth century.

⁵³ Thus, Keats-Rohan, 'John of Salisbury and Education', p. 6, cannot be completely right that John does not think that Adam contributes much to the education of students.

⁵⁴ John certainly appreciates this fact about Adam: John of Salisbury, *Metalogicon*, ed. by Hall, III, prologus, III.3, pp. 102, 114.

⁵⁵ See Appendix 1 below.

like William's must have been an extremely sophisticated logical construct, but John judges it irrelevant and faulty without any analysis, based on the fact that it leads to results that contradict his general worldview.

I should note that it has been suggested that one might deduce exactly the opposite conclusion to mine. Namely, that John rejects William's machine, not because he is not interested but rather because it denies a principle that he considers logically indisputable: that a statement cannot follow both from another statement and from its negation. To say otherwise is to deny a fundamental principle, which is unacceptable *per se*, and therefore William's view does not merit discussion.⁵⁶ In a similar vein, it has been suggested that John did not go into detail simply because it was not relevant to his present purpose.

It seems to me, however, that the wording of the entire passage is rather strongly against such interpretations. John refers to Aristotle and then states that he will never believe such a view no matter how well his friend (William) argues. If he was truly interested in the more intricate elements of logic, one might well have expected him to take seriously a rational argument that questions basic features of the discipline, and has serious consequences for the entire discipline. There is no reason to deny that John understood the important aspects of logic. Instead, as I have tried to illustrate above and shall continue illustrating below, there are plenty of reasons to think that he did not want to explore the more subtle details. Also, the question of whether a statement can follow from another statement as well as from its negation was discussed throughout the Middle Ages. Therefore, it seems unlikely that John would argue that we cannot discuss it.

We may, then, easily believe that John was a very good teacher when it came to the fundamentals of logic, but in advanced logic he is not likely to have been among the most competent in a scholarly world that contained thinkers like Adam of Balsham and Gilbert of Poitiers. Or rather, this was not a subject that he wanted to pursue to extreme lengths. It does not seem reasonable to assume with C. J. Nederman that John had a 'rigorous attitude toward education that was apparently not in keeping with the "market" for more superficial and utilitarian learning that prevailed in his day', and that John may have been a rather unpopular teacher 'because he demanded too much from his students'.⁵⁷ Even if

⁵⁶ See John of Salisbury, *Policraticus*, ed. by Webb, II, p. 136 (bk VII, chap. 11): 'Vera et falsa loqui, bona docere et mala non philosophantium est' (The [true] philosophers do not speak both true and false, do not teach both right and wrong).

⁵⁷ Nederman, *John of Salisbury*, pp. 11–12. See also Keats-Rohan, 'John of Salisbury and Education', pp. 25–27, for a similar, although somewhat more cautious, view. Also, later in his book Nederman, *John of Salisbury*, pp. 73–74, seems to accept another view concerning how strict were the demands John imposed on his students.

one disregards the fact that John himself does not have much respect for such thinking that does not produce practical results, which to my mind is one of the most obvious features of John's views, I would claim the contrary to Nederman. John's teaching of logic was very utilitarian and not on a sufficiently advanced level to meet the demands of the best students of France. This is also strongly indicated by the simple fact that William of Soissons had to go to Adam of Balsham for advanced studies in logic. John did not establish himself as more than a teacher of the fundamentals of the discipline, but, as J. B. Hall and A. L. Ritchie point out to me, he did not pretend to do so either. He taught very young students simply because he had to support himself.

It is also strange that John extols Bernard of Chartres's ability to teach in accordance with the capabilities of his students if John himself was unable, or even unwilling, to do the same.⁵⁸ John has similar respect for teachers who valued simplicity higher than complex analyses that students would never understand anyway, even if it meant that the teacher sometimes distorted the subjects to some extent by oversimplifying them.⁵⁹ In his commentary on Priscian (second edition), William of Conches points out, as a very positive thing, that earlier teachers used to write compendia, and cared much more about the students than about their own ingenuity.⁶⁰

At the same time, John criticizes teachers who intentionally made their lessons difficult.⁶¹ This does not, I think, indicate that John was too demanding of his students. On the contrary, it shows that he wished to teach the individual students precisely in accordance with their different intellectual capacities, presumably without abandoning proper education.⁶² There is no reason to think that John was not good at this kind of teaching.

⁵⁸ John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 52. Compare Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, III.5, pp. 55–57.

⁵⁹ For example, John of Salisbury, *Metalogicon*, ed. by Hall, III.1, p. 103, on Abelard. See also John of Salisbury, *Metalogicon*, ed. by Hall, III.3, p. 114: 'Itaque hic sicut ubique facilitati arbitror serviendum' (Therefore, here [*scil.* in teaching the *Categories*] as well as everywhere else [*scil.* in teaching] I think that one should act in service of simplicity).

⁶⁰ Jeaneau, 'Deux rédactions des gloses', p. 224. On this, see also Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 236 and n. 36. On twelfth-century compendia and florilegia, see Olsen, 'Les classiques latins dans les florilèges médiévaux', pp. 47–121, and Olsen, 'Les classiques latins [...] (*suite*)', pp. 115–64.

⁶¹ John of Salisbury, *Metalogicon*, ed. by Hall, III.3, p. 114 (on Adam of Balsham).

⁶² See Thierry of Chartres, *Commentarius super De inventione*, prologus partis primae, in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg, p. 49: 'Ut ait

The obvious argument against my interpretation is John's general charge against his main opponents in the *Metalogicon*, the Cornificians: that they ruin proper studies and science by being superficial, and want to appear rather than be wise, which implies that John insists on deep and thorough studies.⁶³ For instance, and this is probably one of the most noteworthy explicit statements to this effect, John says that William of Conches and Richard 'the Bishop' both taught by using Bernard of Chartres's methods, but they gave up teaching and resigned (*cesserunt*) when the Cornifician trends in education and science came to dominate studies in grammar.⁶⁴ The natural interpretation of this situation would seem to be that John wanted depth and substance in his teaching, whereas the schools were, in his opinion, dominated by scholars dedicated to superficiality and the wish to *seem* wise. However, a number of counter-arguments can be put forward.⁶⁵ In particular, these disastrous tendencies that John claims to have seen in the education of the schools of the late 1140s and the 1150s do not seem to correspond very closely to reality.⁶⁶

First of all, it seems that those claims cannot be substantiated by evidence from other sources. John is not, of course, the only scholar of his day to complain about the general intellectual situation, but such complaints constitute a topos of all times. Hugh of St Victor's statement, 'We have many who study, but only few who are wise',⁶⁷ could have been said at any point in history. This problem alone

Petronius: nos magistri in scholis soli relinquemur nisi multos palpemus et insidias auribus fecerimus. Ego vero non ita' (As Petronius says: we masters will be left alone in the schools if we do not flatter the multitude and trick them into listening. But I will do not such thing).

⁶³ Another regular accusation is that they are simply greedy and ambitious: John of Salisbury, *Metalogicon*, ed. by Hall, I.4, p. 17–20. See also Aristotle, *Sophistici elenchi*, I, 165a19–24. On Cornificius and the Cornificians, see below 4.2.2 and Appendix 1.

⁶⁴ John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 54. For another interpretation of *cesserunt* (as 'yielding to'), see Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 235–36. As regards the extent of the Cornifician movement, see John of Salisbury, *Metalogicon*, ed. by Hall, I.2, p. 15.

⁶⁵ In addition to the following, Hall and Ritchie rightly point out to me that there is an important difference between 'superficial' and 'simple'. Cornificius's teaching is superficial, but John's is simple.

⁶⁶ On this lack of evidence in favour of educational disaster in the mid-twelfth century, see also Nederman, *John of Salisbury*, p. 62, with whom I agree. For a catalogue of passages suggesting that something might have been wrong (but not at all to the extent that John would have us believe), see Tobin, 'The Cornifician Motif', pp. 1–6. See further Appendix 1 below.

⁶⁷ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, III.3, p. 53: 'multos studentes, paucos sapientes invenimus'.

appears to undermine John's entire exposition, although it is, of course, true that John may well have thought that he saw many charlatans around him. Second, a more speculative argument can be made. For one might turn the tables on John and argue that he lacks a thorough understanding of the situation. He cannot reasonably claim that the situation was all bad during his time of studies, from 1136 to 1147/8, as he received first-class instruction in all the subjects that he studied, and from all the most prominent masters of the period. Since they were the dominating masters, the Cornifician theories *cannot* have been themselves dominant or at least they cannot have dominated as clearly as John would have us believe. That leaves the period 1147/8–59, but in this period John had, by his own account, almost no connection with the schools of France and studies in logic.⁶⁸ Finally, Alexander Neckham's sarcastic description of the strength of logic in Paris later in the century also indicates a continuous tradition of high-level logical studies.⁶⁹

Therefore, I would suggest that John's descriptions of the state of the schools are exaggerated, although it is unlikely that he made them so on purpose. One can think of several, probably connected, reasons for such exaggerations: First, he may simply have judged the situation on the basis of his acquaintance with a few persons who fitted the descriptions of the Cornificians. Second, he may have inferred a general degeneration of studies, since almost all his prominent teachers gradually left Paris without being replaced by equally prominent ones. And finally, John may simply be judging the views of the Cornificians and similar scholars unfairly. In fact, it is certain that no educational and scientific theory like the one presented by John on behalf of Cornificius and his followers ever dominated Paris, and, as I argue in Appendix 1, he must be referring to his schooldays in Paris. I suggest that John's description should be viewed like the description of William of Soissons's machine. Whatever the more precise contents of this theory, it was obviously very sophisticated, but John presents it only quickly as an absurd theory. The same may very well be true for his description of the Cornificians and the situation in the schools of the mid-twelfth century.⁷⁰ To this should be added that the accusation of shallowness was also a rhetorical topos.

⁶⁸ John of Salisbury, *Metalogicon*, ed. by Hall, I.prologus, III.prologus, pp. 10, 101–03.

⁶⁹ Alexander Neckham, *De naturis rerum*, ed. by Wright, chap. 174, p. 311. On the wealth of logical texts from the early twelfth century, see Marenbon, 'Medieval Latin Commentaries', pp. 77–140.

⁷⁰ The situation, as John portrays it in the *Entheticus maior*, is equally bad, probably even worse.

1.1.3. John of Salisbury: The Emergence of a Scholar

The importance for the present purpose of the preceding two sections is to establish the kind of man that emerged from the schools of France in 1147/8.

My first conclusion is that John's skills in high-level logic were probably not exceptional. He certainly became very proficient in elementary logic, and as long as it could be applied in other areas additional to logic itself, he found it immensely interesting and important. However, when logic becomes overly complicated or sophisticated, for instance in the case of William's machine, John is perfectly happy just to describe what he believes to be the essentials of a given logical subject. He usually simply pronounces his approval or disapproval but with no real logical argument. This does not mean that he is incapable of understanding the arguments of people like Abelard, Adam of Balsham, and William of Soissons. He certainly had the training and capacity to understand them if he applied himself to their theories. However, at least in the period following his first two years with Abelard, Alberic, and Robert of Melun, this was not the kind of logic that interested him.

The second conclusion, partly related to the first, is that John was not as well versed in the *quadrivium* as he was in the *trivium* and in theology. As I pointed out, this is somewhat strange considering the fact that he believes all seven arts to be important for the understanding of the world. It may also be important as regards his conception and understanding of logic. At least, some knowledge of mathematics does not harm the logician, which is clear not only from modern logical theory but also well illustrated, for instance, by the example of William of Soissons described above, and by the description of the logicians at Mont Ste Geneviève after Abelard's departure.⁷¹ In some passages, John shows himself to be well aware of this.⁷² Finally, lack of knowledge of the *quadrivium*, and in particular of mathematics and geometry, is likely to have made John ignore, or at least underestimate the value of, the Aristotelian works in which mathematics appears to play a dominant role. On a superficial reading, the *Posterior Analytics*, that is, the most important Aristotelian work concerning science and education, gives the impression of containing much on mathematics. John's reaction to this work shows that he also considered it a work for mathematicians.⁷³

⁷¹ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, pp. 72–73.

⁷² John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 52, in which passage John describes mathematics as following closely upon logic.

⁷³ See below 4.2.4 and 4.2.5.

The third conclusion is that John learned, and became convinced, that Aristotle was by far the most important philosopher and scientist, and that his works were the works that should be used in the education of students. The whole plan and purpose of the *Metalogicon* testify to this, and furthermore some of his most respected teachers and friends, that is, Peter Abelard and Adam of Balsham, are extolled for their understanding and use of Aristotle.⁷⁴ How well he and his teachers actually knew Aristotle is a completely different question, and one which is central to this book. It will be treated in the following two chapters.

1.2. John of Salisbury as a Philosopher: A Sketch

John was a well educated and very intelligent man, but he was not outstanding in any of the subjects that he had been taught. He was no Abelard, William of Conches, or Gilbert of Poitiers. In fact, one might reasonably argue that he was not a philosopher at all, and he would at least to some extent concur.⁷⁵ He did not pretend to state completely new thoughts on the theoretical philosophical issues of his day; in this area of philosophy originality was simply not part of John's nature.⁷⁶ John was a philosopher in the same sense that Cicero was a philosopher, a thinker who stresses the practical aspects of life and thought. At least, at the time of writing the *Policraticus* and in particular the *Metalogicon*, which were both finished in or around 1159, he did not feel completely at home in the world of theoretical philosophy. It should, however, be noted, as Grellard points out to me, that it may be that these were times where originality was just not openly claimed and exhibited. Abelard and Adam of Balsham⁷⁷ may have been exceptional in this respect. Adelard claims that Latin scholars at the beginning of the twelfth century did not like novelties.⁷⁸

⁷⁴ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, pp. 70–73.

⁷⁵ Dotto, *Giovanni di Salisbury*, p. 182, points out, rightly I believe, that if we are to call him a philosopher, we must add 'Christian' to the title.

⁷⁶ Therefore, I think that Nederman is exaggerating John's originality: Nederman, *John of Salisbury*, p. 1: 'John of Salisbury has earned a considerable and well-deserved reputation as an original thinker.' Similarly Nederman, 'Knowledge, Virtue and the Path to Wisdom', with explicit reference to the *Metalogicon*. On this issue, Brooke, 'John of Salisbury', pp. 1–2, and Keats-Rohan, 'John of Salisbury and Education', p. 21, express views that are, in my opinion, more accurate.

⁷⁷ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 49–66, 81–98, pp. 109, 111. In these passages John describes in less than flattering terms the novelties of the Parvipontaneans.

⁷⁸ Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, prologus, p. 82.

However, he was much more inclined to follow his own thoughts in practical philosophy; his firm decision to adopt Academic scepticism is an admirable case in point.⁷⁹ Such a view was very unusual, if not unique, for his time.⁸⁰ Still, the precise nature and originality of John's scepticism are subjects that demand further investigation.⁸¹ Furthermore, sceptical views, albeit very different from ancient, Cartesian and modern ones, are explained also in Al-Ghazālī and Adelard of Bath.⁸² John hardly knew the writings of Al-Ghazālī, and it is doubtful whether he knew Adelard's, who was not, by the way, himself a sceptic. Nonetheless, since thoughts on scepticism did exist in the twelfth century, it is possible that John had also been inspired by contemporary writings and not just by authors like Cicero or Augustine.

Some of his discussions, for instance the one found in the *Metalogicon* on universals⁸³ and his discussions of Gilbert of Poitiers's views in the *Historia pontificalis*,⁸⁴ show that he had not forgotten what he had learned fifteen to twenty years earlier. Yet he repeatedly stresses that he has not studied philosophy since he left school, and that he is therefore a bit rusty and not the most competent author in this discipline.⁸⁵ Of course, such and similar statements are frequent also in other medieval writers on philosophy, and they can quite often be taken as at least partly faking modesty and humility, or even as attempts to look like Cicero in this respect.⁸⁶ However, in John's case his statements may well be sincere; for he had indeed been away from philosophy for a long time, and his other duties had

⁷⁹ On John's scepticism, see below 4.1.2.

⁸⁰ Lagerlund, 'A History of Skepticism', pp. 10–11, and *Rethinking the History of Skepticism*, ed. by Lagerlund, *passim*.

⁸¹ Grellard, who has helped me to clarify my views on John's conception of philosophy and on his originality, will be publishing a very important monograph on John's scepticism and humanism, arguing, among other things, that there are, in fact, important novel features of John's *Christian* scepticism.

⁸² On the theories of scepticism proposed by these thinkers, see Dronke, 'Introduction', pp. 1–18; Lagerlund, 'A History of Skepticism', pp. 10–14; Kukkonen, 'Al-Ghazālī's Skepticism Revisited', pp. 29–59.

⁸³ John of Salisbury, *Metalogicon*, ed. by Hall, II.17, pp. 80–83. Mews, 'Peter Abelard', p. 39, claims that John's discussion of universals is central to the entire *Metalogicon*, but I can find no evidence in favour of this suggestion. In fact, and strangely, universals seem to play no role in his discussion of *Posterior Analytics* in *Metalogicon*, bk IV. On discussions of universals from Plato to the Middle Ages, see de Libera, *La Querelle des universaux*.

⁸⁴ John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, VIII–XIV, pp. 15–41.

⁸⁵ John of Salisbury, *Metalogicon*, ed. by Hall, I.prologus, III.prologus, pp. 10, 101–03.

⁸⁶ Cicero, *Academica*, I.3.11.

left him little or no time for study.⁸⁷ Although this was, and is, also a *topos*, and is found, for instance, in the case of Cicero, J. Martin has rightly pointed out that John's letters support his complaints.⁸⁸ He is very explicit in the prologue to book I of the *Policraticus*:

I despise what the courtiers embrace, and what I embrace they despise. You may wonder why I do not break free from or cut the binding rope if it cannot be loosened in any other way, the rope that has for so long held me in the trifles of the courts, and still holds me caught in a servitude of such magnitude. For I am annoyed and bothered by the fact that I have now been held up by these trifles for almost twelve years, despite my long training for something else. As one who has so to speak been suckled at the teat of the more sacred philosophy, and weaned, I should have passed on to the company of philosophers rather than associate with those who deal with trifles.⁸⁹

All the facts about John so far mentioned make the following investigation somewhat difficult. How exactly does he deal with philosophical issues? How does he deal with the Philosopher? Given his background and philosophical training, what are his strengths and weaknesses in using the newly translated Aristotelian treatises? And what are the advantages for us as readers using John's work? In fact, why should we study the theoretical aspects of John of Salisbury's text at all, if he is not an original thinker in these matters? There are, I think, three interrelated reasons why we should study John's oeuvre with some care.⁹⁰ All of them are recognized by modern scholars, but not all of them have been treated with care:

⁸⁷ Webb, *John of Salisbury*, pp. 102–04, has, in my opinion, evaluated this point correctly. See also Guth, *Johannes von Salisbury*, pp. 64–65: 'Als Johannes fast zwanzig Jahre nach seinem Logikstudium das Metalogicon oder die Verteidigung des Trivium für die Studenten der Logik-Fächer — metā logikon — niedergeschrieben hatte, war die Bedeutung der Logik als Grundwissenschaft im Wissenschaftsbetrieb des 12. Jahrhunderts allgemein anerkannt.'

⁸⁸ Martin, 'Use of Tradition', pp. 57–58.

⁸⁹ John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 22–23 (bk I, prologus): 'Ego enim contemno quae illi aulici ambiunt, et quae ego ambio illi contemnunt. Mirare magis quare non praecido aut rumpo funem, si alias solui non potest, qui me in curialibus nugis tamdiu tenuit et tenet adhuc tantae obnoxium servituti. Iam enim fere annis duodecim nugatum esse taedet et paenitet me longe aliter institutum, et quasi sacratoris philosophiae lactatum uberibus ablactatumque decuerat ad philosophantium transisse coetum quam ad collegia nugatorum.' See also John of Salisbury, *Metalogicon*, ed. by Hall, III.prologus, pp. 101–03; John of Salisbury, *Enthetikus Maior*, in John of Salisbury, *Enthetikus Maior and Minor*, ed. by Van Laarhoven, verses 1283–1530, pp. 189–205.

⁹⁰ As regards practical philosophy, things are different, I think, and there are obvious reasons why one should study both the *Policraticus* and the *Metalogicon* from this perspective.

1. John of Salisbury is a source for the different kinds of philosophy that were found in the twelfth century. In this way he has a role somewhat like the one that Cicero has for much of Hellenistic philosophy — which, incidentally, is a comparison that John would be very pleased to hear,⁹¹ although he also has negative things to say about Cicero.
2. John of Salisbury is a source that enables us to fathom the general level of philosophical competence in the twelfth century, or, more specifically, the level that was reached by thinkers who had access to the *Ars nova*.
3. John of Salisbury is evidence for the use of Aristotle and Aristotelian texts in the mid-twelfth century.

As will be clear not only from the preceding sections of this book but also from its title, number 3 is by far the most important issue for the present discussion.

1.3. *A Note on the Metalogicon and John's Other Writings*

It may be, as stated for instance by Nederman in his recent book, that John of Salisbury exhibits an 'essential unity of his intellectual perspective'.⁹² However, unity and coherence are not actually the most obvious features for someone approaching John's works,⁹³ and for the present investigation, which is concerned with John's views on and treatment of Aristotelian science and scientific theory, far from all the works are relevant. In fact, the only really important work is the *Metalogicon*.⁹⁴

⁹¹ See below 2.2 and 4.1.2.

⁹² Nederman, *John of Salisbury*, p. 86.

⁹³ For the *Metalogicon*, John himself even denies strict coherence. See John of Salisbury, *Metalogicon*, ed. by Hall, 1.prologus, p. 10: 'Placuit itaque sociis ut hoc ipsum tumultuario sermone dictarem, cum nec ad sententias subtiliter examinandas, nec ad verba expolienda studium superesset aut otium' (My friends wanted me to compose this book, and they accepted that I did it in a somewhat disorderly way, since I had not the energy and time to examine carefully the opinions that had been set forth or to polish the style of my work). For a similar, but less believable, statement concerning the *Policraticus*, see John of Salisbury, *Policraticus*, ed. by Keats-Rohan, p. 26 (bk 1, prologus).

⁹⁴ Editions: John of Salisbury, *Metalogicon*, ed. by Webb; John of Salisbury, *Metalogicon*, ed. by Hall. Hall's edition is certainly superior. For criticism of Webb's edition, see Hall, 'Towards a Text', pp. 791–814; Keats-Rohan, 'The Textual Tradition', pp. 229–82, but it should be noted that Hall's edition is, after all, dependent upon Webb's work, in particular in the painstaking *apparatus fontium*, in which Hall often reproduces Webb's results (John of Salisbury, *Metalogicon*, ed. by Hall, p. xv). Translations: John of Salisbury, *Metalogicon*, trans. by McGarry; John of Salisbury, *Metalogicon*, trans. by Lejeune. A new translation by Hall is forthcoming.

In recent years the *Metalogicon* has often been viewed in connection with John's other great work: the *Policraticus*.⁹⁵ H. Liebeschütz claimed that the two works were not even intended as two but rather as a single major exposition of important philosophical issues.⁹⁶ Even though I acknowledge that this point is to some extent relevant for evaluating the philosophical outlook and contribution of John of Salisbury, it seems to me a subject of secondary importance for the present study. There is at present no good reason for combining the two into a single work, as they treat very different subjects and appeal to different kinds of readers, even though some passages of the *Policraticus*, in particular from book II and book VII concerning knowledge, are obviously relevant to the reader interested in logic and the *trivium* rather than political philosophy and historical lore concerning kings and tyrants. Furthermore, the *Policraticus* is a much more finished and polished work than the *Metalogicon*.⁹⁷ Finally, and most importantly, the *Metalogicon* is written as a discussion of, and with use of, Aristotelian writings, while the *Policraticus* is not. Therefore, I shall pay less attention to the latter than to the former.

The other work that may seem to be relevant is the *Entheticus de dogmate philosophorum* (= *Entheticus maior*), a poem in 926 elegiac disticha on philosophical topics.⁹⁸ A major theme throughout the treatise is John's contempt for superficial education, and in this it is, of course, very similar to the *Metalogicon*. But it is clear that, concerning the philosophical issues, the *Entheticus* employs descriptions rather than arguments, as is natural for a text of this kind. I have used it primarily to elaborate on, illustrate, and sometimes to support conclusions drawn on the basis of the *Metalogicon*.

⁹⁵ Editions: John of Salisbury, *Policraticus*, ed. by Webb (I use only books V–VIII of this edition: book V is located in the first volume, while books VI–VIII are located in the second volume); John of Salisbury, *Policraticus*, ed. by Keats-Rohan. Keats-Rohan's edition is superior, but she has edited only books I–IV; Hall is planning the edition of books V–VIII. No complete English translation of the *Policraticus* exists, but for selected, and often substantial, passages, see John of Salisbury, *The Statesman's Book*, trans. by Dickinson; John of Salisbury, *Frivolities of Courtiers and Footprints of Philosophers*, trans. by Pike; John of Salisbury, *Policraticus*, ed. by Nederman. In German, there is a new partial translation, with a substantial introduction as well as Latin text and notes, in John of Salisbury, *Policraticus*, trans. by Seit, and there are translations in several other modern research languages.

⁹⁶ Liebeschütz, *Mediaeval Humanism*, p. 21.

⁹⁷ Even though John explicitly excuses the tumultuous style of both treatises. See above p. 24, n. 93.

⁹⁸ Edition: John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven.

JOHN OF SALISBURY'S SOURCES

2.1. *The Aristotelian Texts*

2.1.1. *The Organon (except the Posterior Analytics)*

John of Salisbury was one of the first to welcome, and use, the entire Aristotelian *Organon*. Much work has been done on the Latin translations of these texts from the first half of the twelfth century, but there are still quite a few unsolved, or at least disputed, problems.¹

Porphyrus's *Isagoge* and Aristotle's *Categories* and *De interpretatione*, all in the translations of Manlius Boethius, had long been used and were well-known texts throughout the Middle Ages.² It was probably around 1120 that other texts from the Aristotelian *Organon* became available. It cannot have been much earlier, since around this date Abelard informs us that only two Aristotelian works, *Categories* and *De interpretatione*, were in general use among the Latins.³ Nor can it have been much later, since at least parts of the *Logica nova* were certainly being used in the 1130s and 1140s. *Prior Analytics*, *Topics*, and *Sophistici elenchi* were the first; as in

¹ The most accessible introduction to the new twelfth-century translations of Aristotle's works is still Dod, 'Aristoteles Latinus', pp. 45–79.

² See *La Tradition médiévale des Catégories*, ed. by Biard and Rosier-Catach; *Aristotle's Peri hermeneias*, ed. by Braakhuis and Kneepkens; *Les Catégories*, ed. by Bruun and Corti; *Medieval Commentaries on Aristotle's Categories*, ed. by Newton. Furthermore, *Vivarium* 48.1–2 (2010) is devoted to 'Aristotelian Logic East and West, 500–1500: *On Interpretation* and *Prior Analytics* in Two Traditions'.

³ Peter Abelard, *Dialectica*, ed. by De Rijk, II.1, p. 146: 'Aristotelis enim duos tantum, Praedicamentorum scilicet et Periermeneias libros, usus adhuc Latinorum cognovit.'

the case of the *Categories* and the *De interpretatione*, they were read in Boethius's translations. However, all three may not have become available at precisely the same time, and they were certainly not all equally liked by the Latin scholars.

The *Elenchi* immediately became popular: it was based on an extremely strong theoretical foundation, and it served the practical purpose of enabling the scholars to avoid being tricked by fallacious arguments. There was no authoritative handbook on this particular subject, and theories of fallacies could easily be incorporated into the existing structures of dialectical reasoning. Garlandus Compotista's *Dialectica* from the last quarter of the eleventh century, or the early quarter of the twelfth century, illustrates well how even a comprehensive and competent handbook of logic would not at this time include a section on fallacies.

As shown by the enormous amount of work that was done on fallacies in the twelfth century, and by a number of extant commentaries and handbooks dating from that century, this was a subject to which scholars could immediately relate.⁴ Early in the twelfth century, Abelard remarks casually that he remembers having seen and read through a book 'ascribed to Aristotle under the title *Sophistici elenchi*,'⁵ but in the *Dialectica* he uses Boethius as the source of his knowledge of the *Elenchi*.⁶ At the time of John's schooldays the text was well known. Adam of Balsham may have been the first to use it in an original Latin treatise on logic.⁷

The *Topics* is closely related to the *Sophistici elenchi* in the Aristotelian corpus of texts; in fact, from the last chapter of the *Elenchi* it appears that the two treatises may actually be considered a single work.⁸ But the *Topics* had a much slower start than the *Elenchi*.⁹ It seems that there was more than one reason for this.¹⁰

⁴ De Rijk, *Logica Modernorum*, I, is the magnum opus on theories of fallacies in the twelfth century. L. M. De Rijk and S. Ebbesen are the two scholars who have worked most extensively on the transmission and the Western tradition of the *Sophistici elenchi*. For an overview of the tradition, see Ebbesen, 'Medieval Latin Glosses', pp. 129–77.

⁵ Peter Abelard, *Logica 'Ingredientibus': Die Glossen zu ΠΕΡΙ ΕΡΜΗΝΕΙΑΣ*, ed. by Geyer, 400.33–34: 'Memini tamen quendam libellum vidisse et diligenter relegisse, qui sub nomine Aristotelis *De sophisticis elenchis* intitulatus erat.' In the same work he exhibits direct knowledge of the contents: Peter Abelard, *Logica 'Ingredientibus': Die Glossen zu ΠΕΡΙ ΕΡΜΗΝΕΙΑΣ*, ed. by Geyer, 400.1–18 and 489.1–490.18.

⁶ Peter Abelard, *Dialectica*, ed. by De Rijk, II.2, p. 181.

⁷ Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', pp. 116–17.

⁸ Aristotle, *Sophistici elenchi*, 34, 183a27–184b8.

⁹ For the *Topics* in the Middle Ages, see Stump, 'Topics', pp. 273–99, and, in particular, Green-Pedersen, *The Tradition of the Topics*.

¹⁰ See also below 4.2.3.

First, Aristotle's *Topics* was not the only work on *loci*; it was not even the only *authoritative* work on this subject. For the *Logica vetus* used Boethius's *De topicis differentiis*, his *De divisione*, and Cicero's *Topics*,¹¹ that is, works by much-respected authors, and all these treatises are much more accessible and generally readable than Aristotle's *Topics*. Therefore, some scholars were likely to prefer Boethius and Cicero to Aristotle as regards *loci* and the other subjects involved in dialectic.¹² Boethius's enormous influence is beyond dispute. Cicero's *Topics* was not as influential; in particular, it may be noted that there are no medieval commentaries on this work,¹³ and Abelard, for instance, seems to have based his use of Cicero primarily on Boethius's work.¹⁴ Still, Cicero's *Topics* was more widely used before 1100,¹⁵ and it was certainly still read in the twelfth century. It is part of Thierry of Chartres's *Heptateuchon*,¹⁶ apparently used by Clarembald of Arras,¹⁷ and Conrad of Hirsau refers specifically to Cicero when he is defining 'argument' (*argumentum*).¹⁸ However, it must be noted that he may well be using Cicero through Boethius's summary, for the same reference is found in Abelard, who certainly does so.¹⁹ The older form is again seen in Garlandus Compotista's *Dialectica*, in which the treatment of *Topics* is found in the fourth book, and is concerned exclusively with Boethius's treatise.²⁰ It may also be noted that Garlandus justifies his *Dialectica* by pointing to the fact that Aristotle is generally too troublesome for beginners.²¹

¹¹ Editions: Boethius, *De topicis differentiis*, ed. by Nikitas, for Boethius's text; Cicero, *Topica*, ed. by Reinhardt, for Cicero. On the contents and use of the *Logica vetus* in the Middle Ages, see Ebbesen, 'Ancient Scholastic Logic', pp. 101–27.

¹² John of Salisbury, *Metalogicon*, ed. by Hall, iv.27, p. 164, laments exactly this fact, that some prefer to use only Boethius, and ignore Aristotle.

¹³ Green-Pedersen, *The Tradition of the Topics*, p. 39.

¹⁴ Peter Abelard, *Dialectica*, ed. by De Rijk, iii.2, pp. 449–51; Peter Abelard, *Collationes*, ed. and trans. by Marenbon and Orlandi, § 85, p. 106.

¹⁵ Green-Pedersen, *The Tradition of the Topics*, pp. 139–45.

¹⁶ See Appendix 2 below.

¹⁷ Clarembald of Arras, *Tractatus super librum Boetii De trinitate*, iv.9, in Clarembald of Arras, *Life and Works*, ed. by Häring, p. 150; Clarembald of Arras, *Expositio super librum Boetii De hebdomadibus*, ii.7, in Clarembald of Arras, *Life and Works*, ed. by Häring, p. 193.

¹⁸ Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, pp. 25–26. He does not treat the *Topics* in his analysis of Cicero (pp. 51–54), but similarly in the case of Boethius (pp. 57–61) he does not treat his *De topicis differentiis* either.

¹⁹ Peter Abelard, *Dialectica*, ed. by De Rijk, iii.2, p. 459.

²⁰ Garlandus Compotista, *Dialectica*, ed. by De Rijk, iv, pp. 86–114.

²¹ Garlandus Compotista, *Dialectica*, ed. by De Rijk, prologus, p. 1.

Second, and related to the last point, John of Salisbury himself testifies that Aristotle's *Topics* did not immediately find favour with scholars of his day, not even at the highest level. Abelard did not use it; perhaps he did not even know it.²² Furthermore, there is evidence that some schools intentionally disregarded it.²³ John tells us that some of Robert of Melun's students considered the treatise useless, while Master Theodoric, who is none other than Thierry of Chartres, 'ridiculed the *Topics* as being a work by [the otherwise unknown, and obviously not well-respected, possibly even fictive²⁴] Drogo of Troyes rather than of Aristotle'.²⁵ Thierry was one of the leading masters of his time, and this kind of verdict on the *Topics* must be taken seriously. At the same time, he himself included the *Topics* in his *Heptateuchon*, and both he and his pupil, Clarembald of Arras, used it,²⁶ so one would conclude that he did not consider it all bad.²⁷ Still, he may have voiced a general negative verdict on the *Topics* in the lectures heard by John in the 1130s (before knowing it properly?). It is also significant that we have no scholastic commentaries on the *Topics* until the first half of the thirteenth

²² Peter Abelard, *Dialectica*, ed. by De Rijk, p. xviii.

²³ Green-Pedersen, 'The Doctrine of "Maxima Propositio"', p. 151.

²⁴ Martin, 'Use of Tradition', p. 67, points out that John himself tells us that he uses rather unknown or even fictive authorities. See John of Salisbury, *Policraticus*, ed. by Keats-Rohan, p. 26 (bk I, prologus). Drogo would, in that case, be a fictive Prügelknabe.

²⁵ John of Salisbury, *Metalogicon*, ed. by Hall, iv.24, p. 162: 'Magister Theodoricus, ut memini, *Topica* non Aristotelis sed Trecassini Drogonis irridebat.' The passage continues: 'Eadem tamen quandoque docuit' (He did, however, sometimes teach the *Topics*). John of Salisbury, *Metalogicon*, trans. by McGarry, p. 240 with his n. 290, and Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 260, n. 108, prefer the following translation: 'Master Theodoric [...] derided the *Topics* of Drogo of Troyes rather than of Aristotle.' But the whole point of the chapter being to criticize those who 'disparage' (*carpunt*) the works of Aristotle, this would seem to make little sense, even if McGarry is right that his is the more natural translation of the Latin text. In favour of McGarry's and Ward's translation it should, however, be considered that Thierry did include the *Topics* in his *Heptateuchon*, but in the passage from the *Metalogicon* that I have just cited, this problem is explicitly acknowledged.

²⁶ Thierry of Chartres, *Lectiones in Boethii librum De trinitate*, 1.50, in *Commentaries on Boethius*, ed. by Häring, p. 149; Thierry of Chartres, *Glosa super Boethii librum De trinitate*, 1.39, iv.4, in *Commentaries on Boethius*, ed. by Häring, pp. 267–68, 285; Clarembald of Arras, *Tractatus super librum Boetii De trinitate*, prologus 9–11, 1.48, 11.50, in Clarembald of Arras, *Life and Works*, ed. by Häring, pp. 78–79, 104, 127; Clarembald of Arras, *Expositio super librum Boetii De hebdomadibus*, 1.1–2, in Clarembald of Arras, *Life and Works*, ed. by Häring, p. 189.

²⁷ Green-Pedersen, *The Tradition of the Topics*, pp. 87, 92, and n. 6 with a reference to the text in Chartres BM, MS 497, fols 319^r–49^v. See also Appendix 2 below.

century, the first most likely from the 1230s.²⁸ There is a possible reference by a commentator on the *Elenchi* (= Anonymus Cantabrigiensis), who claims to have written one,²⁹ and there is a very dubious claim by Robert of Torigny that James of Venice 'commented on' (*commentatus est*) the *Topics* as well as the other texts of the *Logica nova*;³⁰ but that is all.

John of Salisbury obviously liked it, as we shall see in some detail below, and his fondness for the treatise may well have been inspired by others, for instance, by Adam of Balsham, who was both a dedicated Aristotelian much interested in dialectic and known to have used the treatise, perhaps as the first Latin scholar.³¹ In any case, it is hardly correct to say that John 'seems to have been alone in his partiality for the work'.³² Furthermore, as is clear from the evidence concerning the *Prior Analytics* presented immediately below, the fact that we possess no commentaries on the *Topics* from the twelfth century does not mean that no such commentaries existed.

The *Prior Analytics* had a fate similar to that of the *Topics*: it was known by scholars at around 1120, but it was not in general use.³³ As in the case of the *Topics*, the twelfth century was well served already by Boethius's *De syllogismo categorico*,³⁴ and the *Prior Analytics* is much more difficult to master. Both Abelard and John himself comment on its difficulty, and Abelard posits Boethius's *On Categorical Syllogisms* and *On Hypothetical Syllogisms* rather than the *Prior Analytics* as the basic texts on syllogistics.³⁵ Furthermore, John even claims that

²⁸ Green-Pedersen, *The Tradition of the Topics*, p. 87.

²⁹ Cambridge, St John's, MS D.12, fol. 83v: 'Hanc autem divisionem plenius in *Topicis* executi sumus' (This division [of 'probable'] we have carried out more fully in the *Topics*). In principle, the reference could also be to Boethius's *De topicis differentiis*. Ebbesen is preparing an edition of the text.

³⁰ On Robert of Torigny and this statement, see Bloch, 'James of Venice', pp. 37–50.

³¹ See John of Salisbury, *Metalogicon*, ed. by Hall, iv.3, pp. 141–42, and Appendix 1 below. For Adam's use of the *Topics*, see Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', and the introduction to Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello. K. M. Fredborg points out to me that the so-called William of Lucca also quotes the *Topics*: see Guglielmo (vescovo di Lucca), *Summa dialetice artis*, ed. by Pozzi, p. 257.

³² Jacobi, 'Logic (ii)', p. 237.

³³ On the twelfth-century Latin transmission of the *Prior Analytics*, see Cameron and Marenbon, 'Aristotelian Logic', pp. 1–6; Ebbesen, 'The *Prior Analytics* in the Latin West', pp. 96–133; Martin, "They had added not a single tiny proposition", pp. 159–92.

³⁴ Edition: Boethius, *De syllogismo categorico*, ed. by Thörnqvist.

³⁵ Peter Abelard, *Dialectica*, ed. by De Rijk, II.1, pp. 145–46; John of Salisbury, *Metalogicon*, ed. by Hall, iv.2, p. 141.

one may learn the relevant material from the *Topics* instead. Most likely he knows that he is exaggerating,³⁶ and it is in any case more true for Boethius's *De topicis differentiis*,³⁷ but the statement does indicate that at least some scholars, including John, preferred to avoid the *Prior Analytics*.³⁸ Once again, Garlandus Compotista's *Dialectica*, in which categorical and hypothetical syllogisms are treated in books v and vi in accordance with the two Boethian treatises on syllogisms, makes it clear why the Aristotelian treatise was not badly needed.³⁹ Abelard even seems to use the work of Boethius when quoting the Aristotelian definition of the syllogism.⁴⁰

However, contrary to the tradition of the *Topics*, we know for a fact that the *Prior Analytics* was used and already commented upon in the twelfth century. Thus, we possess a commentary by an anonymous author who has been named Anonymus Aurelianensis III, which is probably from the period 1160–80.⁴¹ Despite the fact, then, that we know very little about the early reception of the *Prior Analytics* in the twelfth century, it is certain that the text was not completely ignored, and that commentaries were made. C. J. Martin has recently made a case that it even had some influence in the first half of the twelfth century.⁴² In fact, it may be that the *Prior Analytics* came into use not too long after the *Sophistici elenchi* and before the *Topics*. It is at least noteworthy that Abelard knew the *Prior Analytics* and the *Elenchi*, or at least knew of them, and that the epitaph of Thierry of Chartres specifically mentions these two texts as those rediscovered by Thierry.⁴³ It may also be relevant that Aristotle's *Topics* was apparently the only

³⁶ Green-Pedersen, *The Tradition of the Topics*, p. 100: 'there is no section in book I [of the *Topics*] which the medievals consider to deal with the formal principles or the form of the dialectical syllogism. This is simply presupposed from the syllogism as such, the form of which is described in the *Prior Analytics*'.

³⁷ Garlandus Compotista, *Dialectica*, ed. by De Rijk, v, p. 115, informs the reader that 'knowledge of loci' (*scientia locorum*) is, so to speak, a necessary precondition of establishing syllogisms.

³⁸ For texts to substantiate this fact, compare John of Salisbury, *Metalogicon*, ed. by Hall, iv.2, p. 141, with John of Salisbury, *Metalogicon*, ed. by Hall, iii.5, pp. 118–21.

³⁹ Garlandus Compotista, *Dialectica*, ed. by De Rijk, v–vi, pp. 115–90.

⁴⁰ Peter Abelard, *Dialectica*, ed. by De Rijk, ii.3, p. 232.

⁴¹ Ebbesen, 'Analyzing Syllogisms', pp. 1–20 (repr. with a few additions in Ebbesen, *Greek-Latin Philosophical Interaction*, pp. 171–85). The commentary is found in Orléans BM, MS 283, pp. 178–203. C. Thomsen Thörnqvist is currently working on a critical edition.

⁴² Martin, "They had added not a single tiny proposition".

⁴³ On Abelard, see Peter Abelard, *Dialectica*, ed. by De Rijk, pp. xvii–xviii, with references, and Martin, "They had added not a single tiny proposition"; on Thierry, see the text in 'Une építaphe inédite de Thierry de Chartres', ed. by Vernet, p. 670 (cited below p. 117, n. 165).

part of the *Logica nova* that was not, if N. J. Green-Pedersen is right, accompanied by Greek or Arabic material to assist the interpretation.⁴⁴

This brief description and analysis, then, has established the following facts concerning the twelfth-century tradition of the *Categories*, the *De interpretatione*, and in particular the texts of the *Logica nova*, excepting for now the *Posterior Analytics*:

1. All these Aristotelian treatises were available to scholars at least from around 1120–30.
2. The *Sophistici elenchi* was quickly adopted into Western practices, whereas the reception of the *Prior Analytics* and the *Topics* is more uncertain. Still, it seems certain from the above descriptions and analyses that the texts were known and available if one wanted to use them.
3. Unless one is willing to say that John of Salisbury studied these writings on his own after 1147/8, his education would to a considerable extent have been based on these Aristotelian treatises. Abelard was well known for his Aristotelian views, although the *Prior* and *Posterior Analytics*, *Topics*, and *Sophistici elenchi* play almost no role in his thought; Thierry of Chartres included all the Aristotelian logical texts except the *Posterior Analytics* in his *Heptateuchon*;⁴⁵ and Adam of Balsham is explicitly called a thorough Aristotelian, sometimes even *too* thorough for John's taste.
4. The Aristotelian treatises, along with Porphyry's *Isagoge* and a number of Boethius's works, would therefore be a natural foundation for John's theory of science.

It is therefore, *a priori*, to be expected that John of Salisbury will present Aristotelian views on science. It is also to be expected that his views will be 'more Aristotelian' than those of most of his predecessors, since John also uses the *Ars nova*.

2.1.2. The *Posterior Analytics*

The most difficult work to account for is the *Posterior Analytics*, and unfortunately it is also by far the most important text when one is examining Aristotelian conceptions of science in any historical period.⁴⁶ It came to the West through

⁴⁴ Green-Pedersen, *The Tradition of the Topics*, pp. 94–98. However, already in 'Anonymus Aurelianensis II', ed. by Ebbesen, Ebbesen considered a translation of at least parts of a Greek commentary on the *Topics* likely 'on general grounds', and he informs me (in conversation) that he now thinks it certain that such a commentary existed.

⁴⁵ See Appendix 2 below.

⁴⁶ For the following, see also the more exhaustive treatment in Bloch, 'John of Salisbury,

the translation by James of Venice,⁴⁷ and it was somehow accompanied by a translation of material from the Greek commentary tradition — that is, at least parts of what appears to be Philoponus's commentary, probably somewhat altered by a Byzantine redaction, perhaps even changed into a kind of handbook — in the Latin West, the text was attributed to 'Alexander'.⁴⁸ It has been argued that the Latins also possessed an accompanying commentary by James himself, but in my view this is unlikely.⁴⁹ 'Alexander' is often referred to as *commentator*, and James 'has commented on' (*commentatus est*) the *Posterior Analytics*, but, in fact, it is rather uncertain what *commentum* would signify here. It could, of course, be a commentary in the sense that we usually take it, but I suspect that it might also refer to the kind that is found in another branch of demonstrative studies, namely, mathematics, where a 'commentary' is rather a paraphrase.⁵⁰

The general view at present is, I believe, that James made the translation at some time during the period 1125–50, and probably closer to 1150 than to 1125, although

"John" the Translator', pp. 267–91, in which I present in some detail my views on the early transmission of the *Posterior Analytics*. For previous studies of relevance, see Haskins, 'Mediaeval Versions of the *Posterior Analytics*', pp. 87–105; Haskins, *Studies in the History of Mediaeval Science*; Minio-Paluello, 'Iacobus Veneticus Grecus', pp. 265–304; Dod, 'The Study of Aristotle's *Posterior Analytics*', soon to be published in a revised version in *Cahiers de l'Institut du moyen-âge grec et latin*; Dod, 'Aristoteles Latinus'; Ebbesen, 'Echoes of the *Posterior Analytics*', pp. 69–92.

⁴⁷ On James of Venice, see Minio-Paluello, 'Iacobus Veneticus Grecus'; Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 23–39; Ebbesen, *Commentators and Commentaries*, I, pp. 286–89; Dod, 'Aristoteles Latinus'; Ebbesen, 'Jacques de Venise', pp. 115–32.

⁴⁸ For fragments of 'Alexander's' commentary on the *Posterior Analytics*, see 'Anonymus Aurelianensis II', ed. by Ebbesen, pp. 89–107; Rossi, 'Tracce della versione latino', pp. 433–39; Grosseteste, *Commentarius*, ed. by Rossi, pp. 19–21; Ebbesen, 'New Fragments of "Alexander's" Commentaries', pp. 113–20 (repr. and revised in Ebbesen, *Greek-Latin Philosophical Interaction*, pp. 187–201). In the second half of the twelfth century Gerard of Cremona translated Themistius's paraphrase from the Arabic adaptations. Edition: O'Donnell, 'Themistius' Paraphrasis of the *Posterior Analytics*, pp. 239–315.

⁴⁹ For an argument in favour of such a commentary, see Ebbesen, 'Iacobus Veneticus on the *Posterior Analytics*', pp. 1–9. Ebbesen still supports the view in Ebbesen, 'Echoes of the *Posterior Analytics*', p. 72 and n. 10. For the case against it, see Bloch, 'James of Venice'.

⁵⁰ See Knorr, 'Falsigraphus vs. Adversarius', pp. 334–35: 'The genre of writing to which John [of Tynemouth] contributes is called the *commentum*. Since, in the particular instance of mathematical study, the "commentary" on a source relates to the formulations of the proofs of its propositions, a *commentum* is, in effect, a paraphrase edition of the source.' References to Avicenna as *commentator*, for example, by John Blund around 1200 (Johannes Blund, *Tractatus de anima*, ed. by Callus and Hunt, §§ 89, 145, pp. 24, 39, and passim), prove that such a conception of *commentum* was not limited to mathematical studies. On this, see also below 4.2.7.

few are willing to pinpoint the date of composition.⁵¹ I have argued elsewhere that c. 1130 is the most likely date.⁵² In any case, the fact is that the *Posterior Analytics* was certainly the least used and/or cited text of the *Organon* during the twelfth century, and both before and after John of Salisbury evidence is sparse.

Abelard did not know it except by name, at least not in his logical writings. An important reference to it in the *Logica 'Nostrorum petitioni' (Glossulae super Porphyrium)* clearly shows that he was not familiar with its content; for the reference applies more appropriately to the *Prior Analytics*.⁵³ Two references in the *Logica 'Ingredientibus'* describe the 'analytics' as being concerned with 'learning/doctrine of arguments' (*doctrina argumentationum*).⁵⁴ Furthermore, if he entitled the treatises of the *Dialectica* himself,⁵⁵ then his use of the title *Posterior Analytics* for treatise 4 (*De hypotheticis*) is evidence to the same effect; for the title does not at all reflect the content. It is also to be noted that Abelard's use of the term 'demonstrate' in the simple sense of 'show', or 'prove' in a lax sense of the word, throughout the *Dialectica* is certainly pre-*Posteriora*. Particularly revealing is his description of demonstration as 'full exposition of a word' (*expositio plena vocis*),⁵⁶ a description which obviously derives from the rhetorical rather than

⁵¹ See, for example, Minio-Paluello, 'Iacobus Veneticus Grecus', pp. 269–70, n. 13; Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, p. xix; Dod, 'Aristoteles Latinus', p. 46; Tweedale, 'Logic (i)', p. 196; Burnett, 'John of Salisbury and Aristotle', p. 24. Haskins, 'Mediaeval Versions of the *Posterior Analytics*', pp. 91 and 99, seems to be the only scholar who is explicitly in favour of an early date, that is, around 1130. Still, Haskins agrees with later scholars that the *Posterior Analytics* was not in circulation before c. 1150.

⁵² Bloch, 'John of Salisbury, "John" the Translator'.

⁵³ Peter Abelard, *Logica 'Nostrorum petitioni sociorum'*, ed. by Geyer, 509.5–8: 'Omnia haec: Topica, Categorica, Analytica priora, gratia Secundorum analyticorum, in quibus omnium argumentorum naturas diligenter investigavit, scripta sunt' (All these works: *Topics*, *Categories*, and *Prior Analytics*, were written for the sake of the *Posterior Analytics*, in which Aristotle carefully investigated the nature of all arguments). See Green-Pedersen, *The Tradition of the Topics*, pp. 140–42 for even earlier, and similarly mistaken, statements in two texts from St Gall. The original source of the mistake seems to have been a misreading of a comment in Boethius's commentary on the *Isagoge*.

⁵⁴ Peter Abelard, *Logica 'Ingredientibus': Die Glossen zu Porphyrius*, ed. by Geyer, 2.8–15, and Peter Abelard, *Logica 'Ingredientibus': Die Glossen zu den Kategorien*, ed. by Geyer, 111.3–17.

⁵⁵ So Marenbon, *The Philosophy of Peter Abelard*, p. 44. *Contra* (it seems) Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 60. In support of Dod, it should perhaps be noted that two much earlier texts (ninth and tenth–eleventh centuries) from St Gall, also unfamiliar with the *Posterior Analytics*, attribute hypotheticals to the *Topics*.

⁵⁶ Peter Abelard, *Dialectica*, ed. by De Rijk, v.2, p. 590. See also Peter Abelard, *Dialectica*,

the philosophical tradition. Also, Abelard explicitly uses the *Ars vetus* as the foundation of logic.⁵⁷

Neither I nor anyone else have found evidence that Hugh of St Victor knew the treatise. Also, the fact that Thierry of Chartres did not include it in the *Heptateuchon* has suggested to some scholars that he did not know it even in the 1140s.⁵⁸ However, this latter claim is certainly a *non sequitur*. As was pointed out long ago,⁵⁹ the *Posterior Analytics* was probably omitted due to the difficult and non-introductory nature of the text, which does not fit well into the overall structure of Thierry's compendium.⁶⁰

Finally, at least one scholar has suggested that twelfth-century statements to the effect that logicians use 'syllogisms' and 'inductions', whereas orators use 'enthymemes' and 'examples', may be evidence of knowledge of *Posterior Analytics*.⁶¹ However, it seems to me that the medievals inferred such a view from the well-known passage in Boethius's *De topicis differentiis* on these four concepts.⁶² This is strongly supported by the fact that the theory is found also in pre-*Logica nova* sources.⁶³ Still, around 1200, or a little later, in the *Dialectica Monacensis* the reduction of enthymeme and example to syllogism and induction is explicitly said to be derived not only from Boethius but also from the *Posterior Analytics*.⁶⁴ It may be that the author has seen Aristotle's use of the relevant distinctions in the *Posterior Analytics*; for, at least in the thirteenth century, scholars seem to have regarded the Aristotelian work as the *locus classicus* on this issue.⁶⁵ But in general the *Dialectica Monacensis* clearly follows the patterns of

ed. by De Rijk, I.vol. 3.3, II.1, v.1, v.2, pp. 121, 145, 579, 597, and passim.

⁵⁷ Peter Abelard, *Dialectica*, ed. by De Rijk, II.1, p. 146.

⁵⁸ For example, Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 59; Guth, *Johannes von Salisbury*, p. 66.

⁵⁹ Clerval, *Les Écoles de Chartres*, p. 245; Bellenguez, *Un Philosophe académicien*, p. 111.

⁶⁰ See Appendix 2 below.

⁶¹ 'Instantiae', ed. by Iwakuma, p. 61, commenting on Anonymus, *De locis argumentationum*, I, in 'Instantiae', ed. by Iwakuma, p. 12.

⁶² Boethius, *De topicis differentiis*, ed. by Nikitas, II.2, pp. 21–25, perhaps combined with Boethius, *De topicis differentiis*, ed. by Nikitas, I.5, p. 9–10, and/or with Cicero, *Topica*, §§ 50–56.

⁶³ Garlandus Compotista, *Dialectica*, ed. by De Rijk, IV, pp. 94–95.

⁶⁴ Anonymus, *Dialectica Monacensis*, in De Rijk, *Logica Modernorum*, II.2, p. 487. See also Aristotle, *Analytica posteriora* (hereafter *APo.*), I.1, 71a5–11.

⁶⁵ *Auctoritates Aristotelis*, ed. by Hamesse, (*super primum librum Posteriorum Aristotelis*) no. 3, p. 311: 'Exemplum est inductio, enthymema vero syllogismus' (Example is an induction,

pre-*Logica nova* schools, and there is no substantial use of the *Analytics*. I think it is most likely that the author had the reference to the *Posterior Analytics* from somewhere else, and in any case the distinction would have been known from Boethius beforehand. There are even further possibilities.⁶⁶

Evidence that the *Posterior Analytics* was translated around 1130 can, in fact, be produced, and some of the most relevant is even found in John's *Metalogicon*. The question is of some importance for the present investigation of John's theory of science; for the precise date of the first translation of the *Posterior Analytics* in the period 1125–50 determines whether or not John may have had access to, and may have been taught (or at least told about some of the subjects of), this text during his time as a student.

In the *Metalogicon* John refers to a passage of the *Posterior Analytics*: “We can bid the forms farewell,” says Aristotle. “For they are monstrosities”, or, according to the new translation, “nonsensical noises”, “or if they do exist, they are irrelevant to our discussion.”⁶⁷

Although it is not completely accurate, this is presented as a quotation from Aristotle's *Posterior Analytics*,⁶⁸ which seems to reveal that in 1159 at the latest, John knew at least *two* translations of the text. John quotes James of Venice's translation, but the statement that there is a ‘new’ translation which uses ‘nonsensical noises’, or rather ‘twitterings’ (*cicadationes*), instead of ‘monstrosities’ (*monstra*) shows his knowledge of another one, at least for the content of this particular passage, and it certainly proves the existence of the two translations.⁶⁹ Today, this latter translation is found complete in a single extant manuscript and partially in another.⁷⁰ However, there can be no doubt that this is the translation that John is referring to, since *cicadationes*, which is

whereas enthymeme is a syllogism).

⁶⁶ Iwakuma, in ‘*Instantiae*’, ed. by Iwakuma, p. 61, notes some other possibilities for the origin of the view.

⁶⁷ John of Salisbury, *Metalogicon*, ed. by Hall, II.20, p. 96: “Gaudeant,” inquit Aristoteles, “species. Monstra enim sunt,” vel secundum novam translationem “cicadationes,” “aut si sunt, nihil ad rationem.”

⁶⁸ Aristotle, *APo.*, I.22, 83a32–34: ‘τὰ γὰρ εἶδη χαιρέτω· τερετίσματά τε γάρ ἐστι, καὶ εἰ ἐστίν, οὐδὲν πρὸς τὸν λόγον ἐστίν.’ The Latin translation by James of Venice is: ‘Species enim gaudeant. Monstra enim sunt, et si sint, nihil ad rationem sunt.’ See also below pp. 4.2.6–4.2.7.

⁶⁹ Editions of both (along with Gerard of Cremona's [also twelfth century, but from the Arab version] and William of Moerbeke's from the thirteenth century): Aristotle, *Analytica posteriora*, ed. by Minio-Paluello. See also below pp. 4.2.6–4.2.7.

⁷⁰ See Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pp. xlvi–l.

not an obvious solution for anyone to find, although it is a very good one, is found in this 'new' translation.⁷¹

This latter translation was made by a certain 'John', whose identity we do not know.⁷² John of Salisbury knew at least two 'Johns' (John Belmeis, treasurer of York and thus also known as John of York, and John the Saracen) with a knowledge of Greek, one of whom could have been the translator.⁷³ In fact, it seems that there is a general consensus among modern scholars that John of Salisbury knew the translator, since he and, most likely, Albert the Great are the only Latin scholars of the Middle Ages who are known to have seen 'John's' translation.⁷⁴ But it would then be very strange that his few quotations seem to be from James of Venice's translation.⁷⁵

The most important element for the present purpose of trying to establish the date of the translation is, however, the preface that 'John' the Translator attaches to his translation:

Though occupied by many duties, my affection for you compelled me to translate Aristotle's *Posterior Analytics* from Greek into Latin, a task I undertook so much more willingly, since I recognize that this work contains many fruits of knowledge, and it is certain that the Latins of our times are not well acquainted with it. For Boethius's translation is not found complete among us, and the parts of it that are extant are obscure due to corruption. James's translation, in contrast, is known to the masters in France, as is the same James's translation of commentaries, but the masters by their own silence bear witness that James's version is wrapped up in the shadows of obscurity, and they dare not reveal their acquaintance with the work.

⁷¹ The Latin of the 'new' translation is: Aristotle, *APo.*, I.22, 83a32–34, trans. by James, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 2, p. 141: 'Etenim species dimittantur; cicadationes enim sunt, et si sunt, nihil ad hanc rationem est.' One may note that both *dimittantur* and *cicadationes* are obvious improvements compared to James's translation (see the text p. 37, n. 68 above), and *monstra* is actually a mistranslation of *τερετίσματα* (apparently James was thinking that the word has the same meaning as *τέρατα*). Furthermore, *hanc* and *est* are also of some help to the reader's understanding of the passage. That said, the final *est* is not fortunate. On the two translations, see also Burnett, 'John of Salisbury and Aristotle', pp. 23–27; Jauneau, 'Jean de Salisbury et Aristote', pp. 37–38.

⁷² Since we do not know his full name, I shall consistently write 'John' to distinguish him from John of Salisbury.

⁷³ See Jauneau, 'Jean de Salisbury et la lecture des philosophes', pp. 105–08; Burnett, 'John of Salisbury and Aristotle', pp. 25–26 with references. But the suggestions are much older. See Webb, *John of Salisbury*, pp. 156–58.

⁷⁴ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 8–11.

⁷⁵ On John's use, or lack of use, of translations of the *Posterior Analytics*, see below 4.2.4–4.2.7.

Therefore, if some benefit will come to Latinity from my translation, the credit for this should be given to your request. For I undertook to translate it not for money or empty fame but rather in order to please you by conferring something of value on Latinity. Moreover, if in any matter I shall be found to have strayed from the path of reason, I shall not be ashamed to correct it guided by you or other learned men.⁷⁶

'John' says that James's translation of the *Posterior Analytics* 'is known to the masters in France', but they are afraid to use it and 'dare not reveal their acquaintance with the work'. Unfortunately, it is not clear what 'dare not' (*non audent*) means in this context. Of course, it could mean that they are afraid to expose their own ignorance.⁷⁷ But it could also indicate that they foresaw problems concerning well-established Christian, and in particular Augustinian, doctrine; or perhaps they simply were not yet able to fit the text into the curriculum.⁷⁸

In any case, John of Salisbury expresses views that look very similar in a passage no less interesting than 'John's', to which we shall return when we examine John of Salisbury's views on Aristotelian science:

In addition to these observations [*scil.* observations on the fact that the *Posterior Analytics* is not much used in the Latin West], the book in which the demonstrative discipline is transmitted is much more confused than the others, both because of the transpositions of words and letters and the outdated examples that have been borrowed from different disciplines; and finally — which is not the author's fault

⁷⁶ Edited in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, p. xlv: 'Vallatum multis occupationibus me dilectio vestra compulit ut Posteriores analecticos Aristotelis de Graeco in Latinum transferrem, quod eo affectuosius agressus sum quod cognoscebam librum illum multos in se scientiae fructus continere, et certum erat notitiam eius nostris temporibus Latinis non patere. Nam translatio Boetii apud nos integra non invenitur, et id ipsum quod de ea reperitur vitio corruptionis obfuscatur. Translationem vero Iacobi obscuritatis tenebris involvi silentio suo perhibent Franciae magistri, qui, quamvis illam translationem et commentarios ab eodem Iacobo translatos habeant, tamen notitiam illius libri non audent profiteri. Eapropter, si quid utilitatis ex mea translatione sibi noverit latinitas provenire, postulationi vestrae debebit imputare. Non enim spe lucri aut inanis gloriae ad transferendum accessi, sed ut aliquid conferens latinitati vestrae morem gererem voluntati. Ceterum, si in aliquo visus fuero rationis tramitem excessisse, vestra vel aliorum doctorum admonitione non erubescam emendare.' Translations are also found in Dod, 'Aristoteles Latinus', pp. 56–57, and (partially) in Ebbesen, 'Echoes of the *Posterior Analytics*', p. 71.

⁷⁷ See John of Salisbury, *Metalogicon*, ed. by Hall, II.6, p. 65.

⁷⁸ Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 61, suggests the possibility that the phrase 'implies that the masters refused to lecture on the work, although they did have some knowledge of it'. But see Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 63 (on the reason why the *Posterior Analytics* was only slowly accepted): 'people simply could not understand it [*scil.* the *Posterior Analytics*]'.

— the work has been so much distorted by scribal errors that it contains almost as many obstacles, as it contains chapters. And actually, it is good when there are no *more* obstacles than chapters. Thus, many blame the translator for the difficulty and claim that the work has not been correctly translated.⁷⁹

This passage has several features that link it to ‘John’s’ preface. John of Salisbury is referring to James’s translation, apparently ignoring ‘John’s,’ which is somewhat strange; for if James’s is that bad, why not use ‘John’s,’ which, as we have seen,⁸⁰ he has previously given the impression of knowing? This is a difficult question, and there are no certain answers. Perhaps James’s translation was after all so firmly established as the standard text that John dared not throw it away. Perhaps his use of James’s translation simply reflects the fact that what he says is heavily dependent upon the views of some of his former teachers in Paris, and for chronological reasons they did not have access to ‘John’s’ translation. Perhaps John wrote these parts of the *Metalogicon* before the new translation became available, and only revised them slightly afterwards. Or perhaps, as a fourth possibility that will be explored more carefully below, John did not, despite appearances, work on the basis of the entire *Posterior Analytics*.⁸¹ In any case, the use of James’s translation rather than ‘John’s’ seems to me to establish that John cannot have been the person who promoted the latter’s translation, which has sometimes been argued.⁸²

Be that as it may, it is important to notice that, according to John, James was accused by *many* (*a plerisque*) of having done a rather bad job with the *Posterior Analytics*. These ‘many’ must certainly be the masters in France, the *Franciae magistri* of ‘John’ the translator’s preface. L. Minio-Paluello has suggested that Thierry of Chartres may have been one of the masters who dared not reveal their knowledge of the text.⁸³ P. Dronke argues that William of Conches certainly knew it in the third quarter of the twelfth century, and there is no reason to assume that

⁷⁹ John of Salisbury, *Metalogicon*, ed. by Hall, iv.6, p. 145: ‘Ad haec liber quo demonstrativa traditur disciplina ceteris longe turbator est, et transpositione sermonum, traiectione litterarum, desuetudine exemplorum, quae a diversis disciplinis mutuata sunt, et postremo quod non contingit auctorem, adeo scriptorum depravatus est vitio, ut fere quot capita tot obstacula habeat. Et bene quidem ubi non sunt obstacula capitibus plura. Unde a plerisque in interpretem difficultatis culpa refunditur, asserentibus librum ad nos non recte translatum.’

⁸⁰ See above 2.1.2.

⁸¹ See below 4.2.7.

⁸² See, for example, Jeaneau, ‘Jean de Salisbury et Aristote’, pp. 37–38. I agree with Dod, ‘The Study of Aristotle’s *Posterior Analytics*’, pp. 9–10, 60–61, that Southern Italy or Sicily is the likely place of origin.

⁸³ Minio-Paluello, ‘Iacobus Veneticus Grecus’, pp. 269–70, n. 13.

he was completely ignorant of it in the previous years.⁸⁴ L. O. Nielsen has claimed that Gilbert of Poitiers used the treatise.⁸⁵ L. M. De Rijk and B. G. Dod have pointed out that there is a connection between master Alberic (John's teacher?) and James of Venice,⁸⁶ and, according to some early glosses on the *Sophistici elenchi*, these two men discussed the passage of the text concerned, among other things, with demonstration.⁸⁷ Finally, in a famous letter from the 1160s, John asks Richard 'the Bishop' to send him Aristotelian works including commentaries — the *Posterior Analytics* may well be among the works that he wanted.⁸⁸

In no other environments than the schools of Paris and Chartres would scholars even consider working on this text, except scholars from Southern Italy or Sicily who were steeped in the Greek tradition. Even though Stephen of Antioch's statement (first half of the twelfth century) that there were many scholars in Salerno who read Greek has been questioned,⁸⁹ there is no doubt that in Sicily knowledge of this language was widespread. The scholars of this region can in any case be dismissed, since they did *not* at this time fear the *Posterior Analytics*. On the contrary, as can be seen from a letter by Henry Aristippus, appended as a preface to his translation of the *Phaedo*, they recognized its importance as

⁸⁴ Dronke, 'William of Conches', pp. 157–63.

⁸⁵ Nielsen, *Theology and Philosophy in the Twelfth Century*, p. 89, strongly, and probably successfully, opposed by Marenbon, 'Gilbert of Poitiers', p. 334, n. 27. For some support of Nielsen's view, see Evans, 'Boethian and Euclidean Axiomatic Method', p. 40, with reference to Gilbert's commentary on Boethius's *De hebdomadibus*: Gilbert of Poitiers, *Expositio in Boecii librum De bonorum ebdomade*, 1.9, in Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring, p. 189 (*in praedicamentis et analeticis*). Considering that Gilbert's commentaries do not elsewhere show knowledge of *Posterior Analytics*, this is hardly a reference to *Posterior Analytics*, but note that the *Fragmentum Admuntense*, 6, in *Commentaries on Boethius*, ed. by Häring, p. 120, explicitly says that Boethius is talking about 'demonstrations', and the Abbreviatio Monacensis, *Commentum super Ebdomadas Boetii*, 16, in *Commentaries on Boethius*, ed. by Häring, p. 407, goes further and states that Boethius wants to distinguish his procedure from the dialectical and the sophistic.

⁸⁶ De Rijk, *Logica Modernorum*, I, pp. 85–87; Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 60 with notes 7–8.

⁸⁷ *Glose in Aristotilis Sophisticos Elencos*, 1.2, in De Rijk, *Logica Modernorum*, I, pp. 200–03.

⁸⁸ John of Salisbury, *The Later Letters*, ed. by Millor, pp. 292–95 (Latin text on pp. 292 and 294, English translation on pp. 293 and 295). On this letter, see also below 4.2.7.

⁸⁹ d'Alverny, 'Translations and Translators', p. 438, and n. 71, which includes the quotation: 'Nam et in Sicilia et Salerni, ubi horum maxime studiosi sunt, et Graeci habentur et linguae gnari Arabice quos qui voluerit consulere poterit' (For both in Sicily and at Salerno, where students of these subjects [that is, subjects in medicine] are particularly found, there are both Greeks and men who know the Arabic tongue, whom one can consult if one wants).

the Aristotelian work on science.⁹⁰ And, returning to John of Salisbury, he must be talking about his own schoolmasters. He cannot be referring to the Parisian masters of the late 1140s or 1150s; for, on his own authority, he has not had the time to work seriously on philosophy since his days as a student. There are several passages to this effect, but one from the *Metalogicon* contains what are probably the most explicit and revealing statements:

About twenty years have elapsed since difficulties in my personal matters and the advice of friends whom I could not disobey tore me away from the workshops and the palaestra of those who teach logic. After this time, to confess the truth as it is known to my soul, I have not a single time, not even in passing, picked up the actual texts of the dialecticians — neither their treatises on arts, nor their commentaries and glosses — in which knowledge is produced, preserved, or revised. For in the meantime I have been preoccupied with other tasks that were not only different from, but almost directly opposed to, the study of logic, so that I have hardly had as much as an hour for this; philosophy has only been possible to do in brief moments that I was able to steal.⁹¹

‘About twenty years’ (*Anni fere viginti*) accords pretty well with Gilbert of Poitiers’s departure from Paris in 1142, after which time John studied theology and seems not to have had any teachers in logic. Elsewhere, John provides reliable chronological evidence as regards his own biography.⁹²

From the above three quotations and the other relevant passages of the *Metalogicon* and the *Policraticus*, I believe it to be clear that either James’s translation had existed for some time when ‘John’ made his, or ‘John’s’ was made no later than the mid-1140s. No matter which of the two solutions one prefers, it

⁹⁰ See Plato, *Phaedo*, trans. by Aristippus, p. 89. The relevant passage is cited below, pp. 69–70, with n. 34.

⁹¹ John of Salisbury, *Metalogicon*, ed. by Hall, III, prologus, p. 101: ‘Anni fere viginti elapsi sunt, ex quo me ab officinis et palaestra eorum qui logicam profitentur rei familiaris avulsit angustia, et consilium amicorum quibus non obtemperare non potui. Exinde, ut ex animi mei sententia verum fatear, nec in transitu vel semel dialecticorum attigi scripta, quae vel in artibus, vel in commentariis aut glossematibus scientiam pariunt, aut retinent, aut reformant. Aliis namque et non modo diversis, sed et adversis fere occupationibus interim distractus sum, ut vix vel ad horam, et hoc quodam modo furtim philosophari licuerit.’ See also John of Salisbury, *Metalogicon*, ed. by Hall, I, prologus, I.5, pp. 10, 22 (in the latter passage of which it is stated that what little John knows about the subjects, he has learned in Paris); and John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 22–23 (bk I, prologus); as well as Chapter 1 above.

⁹² John of Salisbury, *Metalogicon*, ed. by Hall, II, 10, 72–73; John of Salisbury, *Policraticus*, ed. by Keats-Rohan, p. 23 (bk I, prologus).

would mean that a translation was certainly available in the 1130s. But this does not tell us anything about the use of the treatise.

Difficult problems concerning the date of the first translation of the *Posterior Analytics* remain. In particular, it should be noted that 'John' the Translator's preface also mentions an otherwise unknown translation by Boethius, and he even claims that parts of it are still extant.⁹³ The important thing is, however, that John seems to have studied or, more likely, heard some of his masters in Paris talk about, the *Posterior Analytics* already in his schooldays. After 1147/8 he did not have time for the study of this treatise, and, in fact, he probably did not study it at all after Gilbert left Paris in 1142. From this date and onwards his studies focused on theology.

2.1.3. The *Corpus Aristotelicum* in General

As for the rest of the *Corpus Aristotelicum*, John apparently had no knowledge of it. James of Venice is known to have translated a number of other Aristotelian treatises,⁹⁴ and other translators were at work in the first half of the twelfth century,⁹⁵ but John seems not to have used such translations. However, this is not surprising, for neither did other scholars of the mid-twelfth century. The most relevant texts for the purposes of scholars of the twelfth century were the logical ones, and they had only recently become available. In the late 1120s Hugh of St Victor still does not seem to use the *Logica nova*, and although later scholars such as Adam of Balsham, Thierry of Chartres, Gilbert of Poitiers, John of Salisbury, and Alexander Neckham do know at least parts of it, their knowledge of the texts is clearly limited. This is so particularly for the *Posterior Analytics*, and they furthermore make some curious choices as to which texts are the more important.⁹⁶ Thus, since they were occupied by analyses of the *Organon*, they had no time or need for Aristotle's other works.

Equally important, however, were the previously established traditions. It is clear from studies of the reception of other Aristotelian texts translated by James

⁹³ See the quotation above pp. 38–39 and n. 76. See also Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 1–3.

⁹⁴ See Minio-Paluello, 'Iacobus Veneticus Grecus', and Dod, 'Aristoteles Latinus'.

⁹⁵ See the survey in Dod, 'Aristoteles Latinus'.

⁹⁶ See below on John's choices, which may have been inspired by Adam's views. As for Thierry and Gilbert, they may have been among those who dared not state publicly their views on the *Posterior Analytics*; see Minio-Paluello, 'Iacobus Veneticus Grecus', pp. 269–70, n. 13, on Thierry; and on Neckham, see Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 66–69.

of Venice that Western scholars of the twelfth and early thirteenth centuries had a number of books on the different subjects. For instance, concerning theories of mind and soul, they had a strong native tradition with Augustine and Cicero as the most prominent representatives for the different kinds of psychological phenomena. They also had an Arabic but basically Aristotelian tradition in the treatises by Avicenna and others. And, of course, there were some restrictions imposed by the religious authoritative texts on any possible theory of the soul and the mind; and it may be added that Aristotle's *De anima*, in particular, does not at first (or second) glance seem to accord well with Christian doctrine on this matter.⁹⁷ Thus, there was no reason why Aristotle's treatises and views should immediately replace the existing ones,⁹⁸ and the same is true for the new logical ones; for the Latins already had basic texts for almost all the subjects.

2.2. Other Latin Sources

The Aristotelian *Organon* was not, as should have become clear from the above, the only source that John of Salisbury used to understand the world. Other works were needed, of which the most important were the books of authors such as Plato, Cicero, Quintilian, Boethius, Macrobius, Martianus Capella, Calcidius, Augustine, Cassiodorus, Isidore, and the classical Latin poets such as Virgil, Horace, Juvenal, Persius, and others.⁹⁹

⁹⁷ On these issues, see, for example, Bloch, *Aristotle on Memory*, pp. 137–228 with bibliography.

⁹⁸ John's own published works indicate no knowledge of Aristotelian works apart from the *Organon*. The reference to Aristotle's *Problemata* in John of Salisbury, *Policraticus*, ed. by Webb, I, p. 303 (bk v, chap. 6) ('Rem admirandam Aristoteles in septimo Problematum [...] dicit' [Aristotle says a remarkable thing in the seventh book of the *Problems*]), is taken from Aulus Gellius's *Noctes Atticae*, III.6 (see the *apparatus fontium* in Webb's edition), or rather from a florilegium containing excerpts: see Martin, 'Use of Tradition', pp. 60–61. A letter from the 1160s may well indicate, however, that John took a more general interest in Aristotelian works later in life: John of Salisbury, *The Later Letters*, ed. by Millor, pp. 292–95 (Latin text on pp. 292 and 294, English translation on pp. 293 and 295). On this letter, see also below 4.2.7 for a more substantial treatment of its contents.

⁹⁹ On the following, see also Jeaneau, 'Jean de Salisbury et la lecture des philosophes', pp. 85–96, and McGarry, 'Educational Theory in the *Metalogicon*', p. 663: 'Numerous others [that is, in addition to the principal ancient philosophers] of the great authors of classical antiquity are summoned by John to consolidate his arguments. Principal among these are Cicero, Quintilian, the poets such as Horace, and, if of lesser quality, of similar mediaeval vogue: Martianus Capella.'

Of course, it is not surprising that thinkers such as Plato (the *Timaeus* in Calcidius' partial translation with his commentary, and there are references to Plato in many ancient authors), Cicero, Boethius, Macrobius, Martianus Capella, and Augustine are used, and in a work such as the *Metalogicon* that is concerned primarily with education, Quintilian is also a natural choice. Cicero's capabilities in several departments of knowledge, not least in oratory and eloquence, were generally acknowledged, and John thought him the best of the Latins albeit not without his faults.¹⁰⁰ Boethius was used and admired both for his own philosophical works and the Aristotelian commentaries, and for his theological works, the *Opuscula sacra*. Augustine was the major religious authority among the Church Fathers, and thus his views on what might also be considered philosophical issues had always to be taken seriously.¹⁰¹

John also makes use of his contemporaries. He is very explicit that the contempt shown by some towards contemporary thinkers is ridiculous, and he himself willingly acknowledges his debts to contemporaries, mostly to his Parisian masters, but there were others. Hugh of St Victor, for instance, is mentioned.¹⁰² This is an agreeable feature of John's general outlook, that is, his ability to accept relevant knowledge from all sources, not just those with ancient and/or well-established authority. One may contrast for example the attitude of Albert the Great about one hundred years later, for whom Latin contemporaries are apparently all idiots.¹⁰³

So far, then, John is a scholastic almost on a par with the thirteenth-century masters: knowledge is obtained through *reading* the relevant authoritative works and by analysing what is read.¹⁰⁴ John was perhaps more open towards the thought of his contemporaries than were most thirteenth-century scholars, whereas the latter generally had much better knowledge of Aristotelian philosophy and

¹⁰⁰ On Cicero, see below 4.1.2.

¹⁰¹ For discussions of the parts of their works that contributed to scientific theory, see below Chapter 3. On Augustine, see also McGarry, 'Educational Theory in the *Metalogicon*', p. 663, for a list of the most important works.

¹⁰² Hugh is even explicitly mentioned: for example, John of Salisbury, *Metalogicon*, ed. by Hall, 1.5, p. 21; John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, prologus, p. 2; and see also John of Salisbury, *Metalogicon*, ed. by Hall, 1.11, p. 29, where John mistakenly writes 'Isidore', although he is, in fact, referring to Hugh.

¹⁰³ See Bloch, *Aristotle on Memory*, pp. 180–85.

¹⁰⁴ John of Salisbury, *Metalogicon*, ed. by Hall, 1.23, pp. 50–51. Such a view is also the basis of the entire *Didascalicon* by Hugh of St Victor, but, of course, he wrote in the 1120s *before* the *Ars nova* was in any way integrated.

science, but these are differences of degree rather than kind. However, the major characteristic that marks out John's approach to his sources as fundamentally different from thirteenth-century thinkers is his extensive use of classical literature, and particularly the classical poets, as sources not seldom on a par with the authoritative philosophers.¹⁰⁵ This is an approach that he shares with prominent philosophers of the twelfth century, and he must almost certainly have learned it in Paris when studying with such scholars as Abelard, Thierry of Chartres, and William of Conches in particular.¹⁰⁶

The ancient view that poets often lie, or at least mix truth and lies, was certainly known in the twelfth century through Latin sources. For instance, Conrad of Hirsau, who seems curiously uninfluenced by Aristotelian views,¹⁰⁷ states it unambiguously.¹⁰⁸ But, as regards Thierry's hexaemeral treatise for example, W. Wetherbee has claimed that it is 'set in a context in which the authority of Virgil is invoked together with that of Plato and Boethius, and all seem to be reconciled by a highly imaginative syncretism', and he goes on to state that William of Conches exhibits such tendencies even more markedly.¹⁰⁹ As another example, one may mention Adelard of Bath's quoting of a famous verse from Virgil's *Georgics* (II.490),¹¹⁰ and his reference to Statius as 'no less a philosopher than a poet'.¹¹¹

¹⁰⁵ For a very clear statement to this effect, see John of Salisbury, *Policraticus*, ed. by Webb, II, p. 126 (bk VII, chap. 9).

¹⁰⁶ See Martin, 'John of Salisbury as Classical Scholar', pp. 197–98, and nn. 57–59 with further references.

¹⁰⁷ This is clear from his description of the *trivium*: Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, pp. 76–77.

¹⁰⁸ Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 24, with the editor's notes. Still, Conrad (p. 46) simply places Boethius in the category of 'Roman authors' and treats him side by side with Virgil, Lucan, and others.

¹⁰⁹ Wetherbee, 'Philosophy, Cosmology, and the Twelfth-Century Renaissance', pp. 32–33. Note, however, as Fredborg points out to me, that Virgil is, in fact, invoked only once by Thierry: Thierry of Chartres, *Tractatus de sex dierum operibus*, 27, in *Commentaries on Boethius*, ed. by Häring, pp. 566–67.

¹¹⁰ Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, p. 8: 'Felix qui potuit rerum cognoscere causas' (Happy the man who was able to fully realize the causes of things). See also John of Salisbury, *Policraticus*, ed. by Webb, II, p. 120 (bk VII, chap. 8); John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 671–72, p. 149.

¹¹¹ Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, 49, p. 182: 'Statius, non minus quam poeta philosophus.'

However, John seems to blur the distinction even more than the others. In a sense we are indirectly already 'warned' by John's diatribes directed against 'Cornificius' and 'Lanuvinus' in the *Metalogicon*¹¹² and the *Policraticus*.¹¹³ For both were known as obviously unreasonable adversaries of justly celebrated ancient poets: Cornificus attacked Virgil, whereas Lanuvinus is the cantankerous old man who criticized Terence. Since John is defending himself against these detractors in both the *Metalogicon* and the *Policraticus*, he must consider himself the Virgil and the Terence of the two stories, unreasonably and unjustifiably accused. Thus, the whole settings of the two works contain distinct poetical flavours.

By themselves, these facts do not, of course, prove anything; they are not even surprising. After all, the history of thought has seen multiple examples of something similar. Plato, whom John knew directly only through the *Timaeus*,¹¹⁴ was a strongly poetic philosopher, and Cicero, who was in many ways John's role model, also flavoured his philosophical writings with poetic touches, although he certainly knew how to distinguish them.¹¹⁵ And the tradition of giving poetic touches, or sometimes simply poetic form, to philosophical writings is also found in some of the most prominent among the scholars of late antiquity and among John's late ancient and medieval predecessors, for example Augustine, Boethius, Anselm, and Abelard. However, John's use of poetry seems to be at least somewhat different from that of the ancients; for whereas Plato and Cicero were primarily themselves the poets in this respect,¹¹⁶ John *uses* the classical poets as authorities to set the stage. The poetry is not John's own.¹¹⁷

¹¹² John of Salisbury, *Metalogicon*, ed. by Hall, 1.1 and passim, pp. 12–14 and passim.

¹¹³ John of Salisbury, *Policraticus*, ed. by Keats-Rohan, p. 25 (bk I, prologus).

¹¹⁴ John did, however, have secondary knowledge of Plato through Apuleius's *On Plato and his Doctrine* (*De Platone et eius dogmate*) and Calcidius's commentary on *Timaeus*. Also, Cicero will have provided some information: Long, 'Cicero's Plato and Aristotle', pp. 44–45; Powell, 'Cicero's Translations from Greek', pp. 279–83. Furthermore, some scholars of his own time were known as Platonists. See, for example, John of Salisbury, *Metalogicon*, ed. by Hall, iv.35, p. 153, on Bernard of Chartres as 'the most perfect among the Platonists' (*perfectissimus inter Platonicos*).

¹¹⁵ Cicero, *Topica*, §§ 32, 67.

¹¹⁶ But see Cicero, *Topica*, § 78: 'et oratores et philosophos et poetas et historicos, ex quorum et dictis et scriptis saepe auctoritas petitur ad faciendam fidem' ([People want to follow not only the great statesmen as role models, but] also the orators, the philosophers, the poets and the historians from whose sayings and writings authority is often sought to establish belief [in what one is saying]).

¹¹⁷ Of course, the poetry of the *Entheticus Maior* is John's own, but both the *Policraticus* and the *Metalogicon* are very different from this work.

This is all in full accordance with the explicit use of poetry in both of his major works, the *Metalogicon* and the *Policraticus*, which are after all — it should be remembered — primarily philosophical treatises. The poets are given place side by side with the philosophers as authorities who have voiced deep and important truths. One must also remember that the great classical Latin poets were authorities in certain areas of human learning, thought, and knowledge. The philosophers used different kinds of tales, because Nature preferred not to have her truths stated in prosaic language, and such were, in fact, the general feelings concerning statements of philosophical thoughts.¹¹⁸ This view included poetry under the imaginative tales, and was widely accepted; Bernardus Silvestris is an illustrious example of such an approach to poetry.

In John's *Metalogicon*, the poets constitute a particularly important part of grammar, and they are also important in rhetoric.¹¹⁹ Therefore, as I pointed out above, scholars, teachers, and students of the twelfth century did use the poets in contexts that transcended purely literary studies. Even in grammar, where mastering the language of the ancient authors was the goal, students still had to read the texts with an interpretative purpose.¹²⁰ In the most narrow sense of the word, 'grammar pertains to pronunciation alone,'¹²¹ but in practice things were different.

John will have been exposed to Virgil, Horace, Lucan, and others in scholarly contexts, in particular through Abelard's and William of Conches's teaching and in his studies with Richard 'the Bishop' and Thierry of Chartres. And once someone has become a respected authority in one area of learning and knowledge, it easily happens that the same person gains similar authority in other areas. Here, however, his claim to such authority in these fields is not beyond dispute. In fact, it might be argued that this 'authority by reputation' was what happened in the case of Aristotle himself in some areas.¹²² In short: thinkers of the twelfth century — not just John of Salisbury — attributed much authority to the classical poets

¹¹⁸ Peter Abelard, *Theologia christiana*, ed. by Buytaert, 1.98–103, pp. 112–14.

¹¹⁹ John of Salisbury, *Metalogicon*, ed. by Hall, 1.25, pp. 51–55, on Bernard of Chartres's teaching in grammar, and above 1.1.1.

¹²⁰ Lerer, 'John of Salisbury's Virgil', pp. 24–39, on John's approach to Virgil's *Aeneid*. See, in particular, Thierry of Chartres's prologus to the *Heptateuchon*, in 'Le Prologus in Eptatheucon de Thierry de Chartres', ed. by Jauneau, p. 174, where he includes 'exposition of all the authoritative authors' (expositio omnium auctorum) as part of grammar.

¹²¹ For example, Hugh of St Victor, *De sacramentis*, ed. by Migne, prologus, cap. 5 (PL 176, col. 185): 'Ad solam pronuntiationem pertinet grammatical'. The same statement is found in Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 76.

¹²² See the analysis and conclusion in Bloch, *Aristotle on Memory*, pp. 137–228.

in areas in which it might be claimed to be inappropriate, and the cause of this was their extremely important position in grammar, rhetoric, and literary studies. Furthermore, to a man who values well-expressed moral views as philosophically more important than the kind of logic that has nothing to contribute to how one must live one's life, a clear-cut distinction between philosophers and poets will not make much sense.

As a man trained for many years in logic, and as generally fond of the discipline when it was practised correctly, John would surely acknowledge that writers such as Virgil, Horace, and the like did not contribute to the extent that Aristotle, Boethius, Porphyry, Abelard, and others did. The relatively little use of poets in *Metalogicon* books III and IV clearly substantiates this. However, as J. Martin has stressed, the fact that John uses the poets of antiquity primarily to support Christian tenets proves that things are more complicated;¹²³ for this argumentative function is no less important than rational argument. Thus, poets are used much more frequently in the ethical and political *Policraticus* than in the logical *Metalogicon*, but still, where authority is concerned, there is no clear-cut distinction between logic and the ancient poets.

According to John, then, there is no impassable gulf between Christian faith and logic; on the contrary, logic (when practised correctly) and faith are actually closely interrelated. Philosophy, including logic, is among the best tools of man in obtaining truths in this life, and Christian faith is *necessary* in order to be able to do proper philosophy. When an author says — as John does — that 'philosophy surpasses all other gifts',¹²⁴ and calls it the 'the road and guide to salvation' among other things, philosophy has obviously been elevated to an extremely high position in human life.¹²⁵ Very similar views are

¹²³ Martin, 'John of Salisbury as Classical Scholar', p. 201 (describing the use of Virgil at the end of the *Policraticus*, but making a general point): 'At these moments at the end of the *Policraticus* we see an essential dimension of John as classical scholar, seeking profound Christian truths hidden in the literature of pagan antiquity, particularly in its poetry. It is in the service of these truths that he draws on his reading of the texts and their commentaries and all that his teachers imparted to him in his formative years in France.' See also Southern, *Scholastic Humanism*, p. 19, and Nederman, *John of Salisbury*, p. 41.

¹²⁴ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verse 245, p. 121: 'Muneribus cunctis praecellit Philosophia.'

¹²⁵ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 277–78, p. 123: 'Philosophia quid est nisi fons, via duxque salutis, // lux animae, vitae regula, grata quies?' (What is philosophy other than the source of, the road and the guide to salvation, // the light of the soul, the guiding principle of life, the welcome [inner] peace?).

found in the *Policraticus*,¹²⁶ and, of course, the entire *Metalogicon* is written in defence of philosophical studies. That said, there are many passages in which John also makes it clear that no man who does not live a Christian life is a true philosopher.¹²⁷ Philosophy is built on the foundation of Christian faith; the latter is in a sense the *principium* of the former. At other times, philosophy and true faith are simply regarded as identical.¹²⁸ These were standard ideas in the twelfth century. But in some passages philosophy is made the servant of Christian faith, that is, it exists to assist and strengthen it.¹²⁹ Since philosophy and faith are so intertwined, it does not seem too strange that subjects that belong strictly within the one, such as logic, are sometimes influenced by elements that are also used to support faith, namely, ancient poetry and other literary authors. It does not often, if ever, happen explicitly, but the underlying assumption that the classical authors are authorities allows a philosopher to pass judgement on an issue without proper argument. William of Soissons's 'machine' and John's reaction to it constitute, I think, an example.¹³⁰

More can be said concerning John's use of the classics. For John believed in a kind of unity of the sciences: all branches of knowledge contribute in some way to the knowledge of other branches.¹³¹ This he learned from his teachers in France. Thus, he says of Gilbert of Poitiers:

He [St Bernard of Clairvaux] knew only little about secular writings, in which it is generally believed that no one in our time surpassed the bishop [Gilbert of Poitiers]. [...] His [Gilbert's] doctrine seemed obscure to beginners, but for those who had advanced in their studies, it seemed compendious and solid. In so far as any matter at hand demanded it, he made use of all kinds of disciplines of learning,

¹²⁶ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 118–22 (bk VII, chap. 8).

¹²⁷ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 135–36 (bk VII, chap. 11); John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 311–24, 641–54, 1271–74, pp. 127, 147–49, 187–89. See also Peter Abelard, *Collationes*, ed. and trans. by Marenbon and Orlandi, § 71, p. 88.

¹²⁸ See also Thierry of Chartres's prologus to the *Heptateuchon*, in 'Le Prologus in *Eptatheucon* de Thierry de Chartres', ed. by Jauneau, p. 174; Godefroy de Saint-Victor, *Fons philosophiae*, ed. by Michaud-Quantin, verses 465–68, p. 51. Gilbert of Poitiers represents a third stance when he claims that the liberal arts are necessary in order to understand St Hilary, that is, religious works. See John's description in John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, XII, p. 26.

¹²⁹ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 439–50, p. 135.

¹³⁰ See above 1.1.2.

¹³¹ See below 4.2.8.

knowing full well that they were all consistent with each other, and to mutual benefit. For he held that the disciplines were connected. [...] Even in theology he showed the properties and figures of speech with examples from the philosophers and the orators as well as the poets.¹³²

Evidence is also found in Gilbert's own works.¹³³

A view like Gilbert's includes *all* kinds of knowledge, and even though one would not naturally categorize science together with classical poetry, in some way they do contribute to the contents of one and the same genus, namely, knowledge. Therefore, the scholar who wanted to be truly knowledgeable would have to study not only Aristotle and Boethius, but also poets like Virgil, Horace, and Lucan.¹³⁴ Gilbert, in particular, used the terms of other sciences with great success in theology,¹³⁵ and John would have learned the principles of such an approach from him. This view on the sciences certainly precludes a narrow-minded approach, and other prominent masters of the early twelfth century tended in the same direction.¹³⁶ Alberic and Robert of Melun, who are accused of having poor knowledge of the classics, not respecting their predecessors, and being too fond of their own theoretical inventions, were severely criticized for this.¹³⁷

Having said all this about John's reading of the classics, another of J. Martin's important results must also be borne in mind: that John did *not* read all his classics

¹³² John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, XII, p. 27: 'Seculares vero litteras minus noverat, in quibus, ut creditur, episcopum nemo nostri temporis praecedebat. [...] Doctrina eius novis obscurior sed provectis compendiosior et solidior videbatur. Utebatur, prout res exigebat, omnium adminiculo disciplinarum, in singulis quippe sciens auxiliis mutuis universa constare. Habebat enim connexas disciplinas [...] Proprietates figurasque sermonum et in theologia tam philosophorum et oratorum quam poetarum declarabat exemplis.'

¹³³ Gilbert of Poitiers, *Expositio in Boecii librum primum De trinitate*, I.1.10.prologus, I.3.16.prologus, I.2.55, in Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring, pp. 55, 66, 90.

¹³⁴ John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 52: 'Excute Virgilium aut Lucanum, et ibi, cuiuscumque philosophiae professor sis, eiusdem invenies condituram' (Examine Virgil or Lucan, and there you will find the seasoning of whatever philosophy you adhere to). See also John of Salisbury, *Metalogicon*, ed. by Hall, I.22, pp. 49–50; and Jeuneau, 'Gloses et commentaires de textes philosophiques', pp. 119–20.

¹³⁵ Chenu, 'Un Essai de méthode théologique', pp. 258–67. See also Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 238–39, on the similar case of Thierry of Chartres.

¹³⁶ See, for example, Hugh of St Victor's more cautious, but in some respects similar, thoughts on how to study and use the arts: Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, III.5, pp. 55–57. See also Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 68–72.

¹³⁷ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 71.

in extenso but often in florilegia and compendia.¹³⁸ It is, of course, well established that florilegia and compendia were much used in the twelfth century, and that teachers in certain periods often produced such tools for students.¹³⁹ However, the fact that John is in several cases quite willing to settle for an abbreviated version of a text has two potentially very important consequences.

First, it supports the conclusions that have already been stated concerning John's general approach in theoretical studies: that long and hard studies of specific problems are not his primary concern. He seems much more interested in the general issues of the subjects that he is treating, and almost shuns the detailed and more complicated analyses. This general outlook is appropriate, I think, for someone who prefers to read compendia and florilegia rather than the full versions of the texts. Although this is not to say, of course, that John never read some of the classical and other texts in their full length.

Second, and to my mind more important, John's use of abbreviated and selected classical texts raises a question that has never, to the best of my knowledge, been raised before: would it not be natural for him also to have read primarily compendia and florilegia for the *philosophical* texts that he used?¹⁴⁰ In particular, it is an important question whether he read at least part of the *Organon* in an abbreviated form.¹⁴¹

2.3. *The Arabic Sources*

Whereas the existence and, to some extent, the magnitude of Greek and Latin influences in John's work are easily confirmed, things are very different concerning Arabic science.¹⁴²

¹³⁸ See, in particular, Martin, 'Use of Tradition'; Martin, 'John of Salisbury'. Her doctoral dissertation, Martin, 'John of Salisbury and the Classics', was not available to me. It has even been argued that John himself composed at least one florilegium: Stirnemann and Poirrel, 'Nicolas de Montiéramey', pp. 179–80. See also Duggan, 'Classical Quotations and Allusions', pp. 1–22.

¹³⁹ Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 235–37 with further references.

¹⁴⁰ Apart from the well-known Aristotelian compendia of the *Sophistici elenchi*, it may be interesting to note Stephen of Rouen's florilegium of Quintilian's *Institutiones oratoriae* from the mid-twelfth century. Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 253–62.

¹⁴¹ On this, see, in particular, below 4.2.5–4.2.7.

¹⁴² For the following, see Jolivet, 'The Arabic Inheritance', pp. 113–48; Burnett, 'Scientific Speculations', pp. 151–76; *Glosses and Commentaries*, ed. by Burnett; Burnett, 'La Réception

At the end of the eleventh century, scientific texts on medicine were translated from Arabic into Latin by Constantine of Africa, and in the first part of the twelfth century texts on mathematics, astronomy, optics, and other subjects were also made available to the Latin West. Philosophical texts followed, translated, in particular, by Dominicus Gundissalinus (1110(?)-90) and Gerard of Cremona (1114-87), but there were others. Arabic work concerned with theories of science/knowledge 'takes us to the frontiers, often difficult to trace exactly, which in fact join rather than divide the realms of science and philosophy'.¹⁴³

Unfortunately, there are several problems here. First, the chronology is almost entirely obscure, and most of the translations cannot be dated with any precision. Furthermore, the interactions between scholars who worked within the Arabic tradition and those of the Latin West are often equally difficult to ascertain. Second, important parts of the Arabic theories are not easily compatible with Western learning; this is true, for example, of the classifications of sciences, and not least as regards the positions of medicine and physics, which had found no place in the traditional *quadrivium*.¹⁴⁴ In the twelfth century, no Aristotelian treatise could function as the basic text in physics, since the *Physics* and the other works on natural philosophy were apparently not readily available. Plato's *Timaeus* was the foundation, but this is a work which is in large parts without arguments and evidence.¹⁴⁵ The Arabic texts would have worked better as scientific treatises within the liberal arts structure, but this structure of studies deteriorated before the texts could possibly become thoroughly integrated. It should perhaps be noted that in the *Entheticus*, John of Salisbury stresses that medicine and physics must have a part to play.¹⁴⁶

des mathématiques', pp. 101-07; de Libera, *La Philosophie médiévale*, pp. 344-50; Burnett, 'Arabic into Latin', pp. 370-404. There are also some relevant essays in *The Introduction of Arabic Philosophy into Europe*, ed. by Butterworth and Kessel.

¹⁴³ Jolivet, 'The Arabic Inheritance', p. 117.

¹⁴⁴ Some Latin writers probably saw this problem: see, for example, Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 76, in which passage Conrad claims that the 'form' (*forma*) or 'exterior disposition' (*exterior dispositio*) of things (*res*) must be examined by the disciplines of the *quadrivium*, but their 'nature' (*natura*) or 'inner quality' (*interior qualitas*) is the subject of physics. At the end of the treatise, however, Conrad treats the subject conservatively (pp. 83-84).

¹⁴⁵ On Aristotle as the logician, Plato as the natural philosopher, see Godefroy de Saint-Victor, *Fons philosophiae*, ed. by Michaud-Quantin, verses 237-40, p. 43.

¹⁴⁶ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 357-74, p. 129.

Third, and finally, when we perceive Arabic influences in the West, caution is needed; quite often, those perceptions prove to be illusive.¹⁴⁷

As far as I know, no one has ever claimed or shown that John of Salisbury's works contain any traces of Arabic influences. Certainly, the question has never been posed in connection with his views on knowledge and science. Burnett has stated that 'both the *Posterior Analytics* and the demonstrative method which it describes were known indirectly through Arabic and Latin texts', but he informs me (in conversation) that, as regards the Arabic texts, he is thinking of the second half of the century.¹⁴⁸ Since familiarity with at least parts of Arabic thought (in Latin translations or, perhaps, orally transmitted) would explain a number of issues in John's own work, I shall provide a brief discussion, but I accept that it is most likely that John did not know the texts directly.

In addition to the translated works of science, Euclid's *Elements* being the most important, Dod notes that the following works have substantial sections on demonstrative science:¹⁴⁹

- Al-Fārābī's *On the Sciences* (*De scientiis*), in two translations by Gerard of Cremona and Gundissalinus (?) respectively.¹⁵⁰
- Anonymus, *Introduction to the Art of Logical Demonstration* (*Liber introductorius in artem logicae demonstrationis*), probably translated by John of Seville or Gerard of Cremona.¹⁵¹
- Al-Ghazālī's *Intentions of the Philosophers*, perhaps translated by Gundissalinus.¹⁵²

The *Liber introductorius* is particularly important.¹⁵³ Since the Latins of the mid-twelfth century did not know the *Posterior Analytics* well, they would have to learn about demonstration from somewhere else. A compendium like this work

¹⁴⁷ Jolivet, 'The Arabic Inheritance', stresses all three points.

¹⁴⁸ Burnett, 'Scientific Speculations', p. 156.

¹⁴⁹ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 72–80, but he never relates the texts properly to the Latin tradition. See also Jolivet, 'The Arabic Inheritance', for other works on knowledge and science.

¹⁵⁰ Editions: Al-Fārābī, *Catálogo*, ed. by Palencia.

¹⁵¹ Edition: Anonymus (Mahometh, student of Al-Kindi), *Liber introductorius*, ed. by Nagy, pp. 41–64, with notes pp. 73–74.

¹⁵² Edition: Al-Ghazālī, *Tractatus de logica*, in 'Logica Algazelis', ed. by Lohr. For the part on demonstration, see also Lagerlund, 'Al-Ghazālī on the Form and Matter', pp. 193–214.

¹⁵³ On this text, and in particular its relation to Arabic texts, see Baffioni, 'Il "Liber introductorius"', pp. 69–90.

would seem to be the ideal solution, since it provides a substantial amount of information about the foundation of sciences, demonstration, and demonstrative science. A brief summary of the essentials of the treatise will show this.

At the beginning, the anonymous author explicitly states that, having previously discussed 'predicables' (*praedicabilia*), he will now examine 'demonstrative argumentation' (*argumentatio demonstrativa*).¹⁵⁴ Demonstration is, then, a kind of argumentation, and he therefore proceeds to conduct a substantial analysis of this concept.¹⁵⁵ Argumentation is a basic human skill that is nurtured from childhood. It is based on the perceptual images which constitute the premises of even the earliest argumentations made by humans. Mistakes are frequent in the child's use of arguments, but certainty is gradually obtained by experience and constant re-evaluation. However, even among those who have obtained some understanding (*intelligentes*), the wise (*sapientes*) and the philosophers (*philosophantes*), there will remain a number of opinions (*opiniones*) and judgements (*aestimationes*) that do not constitute certain knowledge.¹⁵⁶ But this is, in fact, a problem in *all* kinds of argumentation; for there are several examples of alleged demonstrations that are not actually true, but this is only discovered by more careful investigation.¹⁵⁷

Demonstration itself is described with explicit reference to Aristotle. According to the anonymous author, the basic conceptions found in human beings have been established in the soul by perception, and in every knowledge/science two 'first intelligibles' (*prima intelligibilia*) must be assumed: whether something is, and what it is.¹⁵⁸ These have to be known, since something known must always be the basis of obtaining knowledge of what was previously unknown. Thus, they are the foundation of the structure of demonstrative sciences. Of the first intelligibles, the 'being of things' (*esse rerum*) is obtained in the soul by perception, whereas the 'quiddity of things' (*quidditas rerum*) is obtained through 'meditation' (*meditatio*), 'consideration' (*consideratio*), and 'reflection' (*cogitatio*). When both are obtained, the soul is said to be 'understanding' (*intelligens*), which means that 'the human soul [...] becomes actually knowing, having previously been potentially knowing' (*anima humana [...] fit sciens in effectu, postquam fuit antea sciens in potentia*).¹⁵⁹

¹⁵⁴ *Liber introductorius*, ed. by Nagy, I, p. 41.

¹⁵⁵ *Liber introductorius*, ed. by Nagy, I–II, pp. 45–49.

¹⁵⁶ *Liber introductorius*, ed. by Nagy, II, pp. 46–48.

¹⁵⁷ *Liber introductorius*, ed. by Nagy, II, pp. 48–49.

¹⁵⁸ *Liber introductorius*, ed. by Nagy, III, p. 50.

¹⁵⁹ *Liber introductorius*, ed. by Nagy, III, pp. 50–51.

As regards first principles (*prima intellecta*), the author uses Euclid to illustrate that those who know and understand them do not differ in their understanding of them. The differences arise only in the kind of knowledge that is established by proofs (*probationes*) and arguments (*argumentationes*) on the basis of the principles. For people differ in the kind of arguments that they use, in the ways they use them, and in their skills in using them. In particular, those who are good at speculative thinking and meditation, and who have a penetrating intelligence, will be able to derive more knowledge from the principles.¹⁶⁰

The foundation of the certainty which must be obtained concerning things that are known *per se* is induction. One has to perceive the individual sensibles, consider and meditate on each. By considering many individuals, a single concept, covering all the perceived individuals and capable of receiving more of the individuals in this genus, is established.¹⁶¹

Demonstrative science is described as a procedure in which one posits something known on the basis of the inductively derived knowledge, and then these posited items of knowledge must be combined in ways so as to provide the possibility of new knowledge.¹⁶² This view is explicitly attributed to Aristotle — wrongly, according to most modern scholars.¹⁶³ But it seems to show that even though the medievals appreciated different aspects of demonstration, the twelfth century knew some very strong arguments in favour of treating demonstration as a scientific procedure, not as a theory of how to present the results of science.

In any case, in the *Liber introductorius* demonstration is conceived as the basic method of obtaining new knowledge, and the author finds it important to stress that it must be a linear one: nothing can be its own cause. Many so-called demonstrators make this mistake. This is not to say that it may not sometimes be difficult to establish which one of two items is the cause and which one the effect, but such matters are usually settled by experience.¹⁶⁴ In a similar vein, one must posit the essential cause (*causa essentialis*) in the argumentation; no accidentals, not even inseparable ones (*accidentia inseparabilia*), can be used in

¹⁶⁰ *Liber introductorius*, ed. by Nagy, III, pp. 51–52. The anonymous refers us to a work on logic and topics for a more careful exposition of his claim. See also *Liber introductorius*, ed. by Nagy, v, p. 62.

¹⁶¹ *Liber introductorius*, ed. by Nagy, III, pp. 52–53.

¹⁶² *Liber introductorius*, ed. by Nagy, III, pp. 53–54.

¹⁶³ For the argument against it, see, for example, Barnes, 'Aristotle's Theory of Demonstration', pp. 65–87.

¹⁶⁴ *Liber introductorius*, ed. by Nagy, III, pp. 54–55.

demonstration.¹⁶⁵ Furthermore, propositions used in demonstrations must be universal, since they cannot otherwise be necessary, and the predicates must be the first ones said of (or found in) the subject.¹⁶⁶ Thus, demonstration is used by the wise and the philosophers in order to obtain the knowledge that can be reached by deduction, not by perception and not in the way the first principles are reached.¹⁶⁷

Finally, after his description and analysis of demonstrative procedures, the anonymous author divides demonstration into two species: logical and geometrical. Both are important, but the geometrical one should come first; for the principles of this kind are easier to comprehend and better illustrated by use than logical demonstration.¹⁶⁸ The rest of Chapter III and the whole Chapter IV of the treatise are taken up by examples of demonstrations in different areas of knowledge: mathematics, psychology, and natural philosophy.¹⁶⁹

Chapter V takes a more general approach. Just as human beings develop through different stages by losing accidental attributes while gaining new and better ones, so also do their knowledge and cognitions.¹⁷⁰ The methods are several: children proceed without much reflection; adults do too, but on the basis of much more experience; the wise (*sapientes*), in contrast, use 'the knowledge/science of topics and subtlety of theoretical speculation' (*scientia topicae* and *subtilitas speculationis*), in which an opponent is required, and the principles used must be agreed upon by both parties; finally, those who are trained in demonstration proceed from first principles and make necessary inferences based on these.¹⁷¹ The first principles in demonstration are obtained through perception, and the more perspicacious (*perspicacior*) man will be able to derive more principles from the sensibles than other people. Such a man will be closer to the angels and God.¹⁷² Thus, the author heavily stresses the role of perception and the sensibles, and he goes further by saying that meditation on these sensibles will multiply the first principles, and using these first principles will multiply the

¹⁶⁵ *Liber introductorius*, ed. by Nagy, III, pp. 55–56, on slaughter (*occisio*) and death (*mors*). See also Aristotle, *APo.*, I.4, 73b10–16.

¹⁶⁶ *Liber introductorius*, ed. by Nagy, III, p. 56. See also Aristotle, *APo.*, I.5, 74a4–b4.

¹⁶⁷ *Liber introductorius*, ed. by Nagy, III, p. 57.

¹⁶⁸ *Liber introductorius*, ed. by Nagy, III, p. 58.

¹⁶⁹ *Liber introductorius*, ed. by Nagy, III–IV, pp. 58–61.

¹⁷⁰ *Liber introductorius*, ed. by Nagy, V, pp. 61–62.

¹⁷¹ *Liber introductorius*, ed. by Nagy, V, p. 63.

¹⁷² *Liber introductorius*, ed. by Nagy, V, pp. 63–64.

number of demonstrations in his soul. Any soul that multiplies first principles and demonstrations will be much better at conceiving the spiritual forms (*formae spirituales*) already in this life. Therefore, these procedures provide the soul with 'angel-like habits' (*mores angelici*), which will enable the soul eventually to go to paradise in a pure state.¹⁷³

This brief summary of the *Liber introductorius* shows, I think, that a much more thorough knowledge of demonstration and demonstrative procedures than could be found in Boethius and other classical authors was actually available in the twelfth century. And despite the fact that the Latin used in this treatise is somewhat strange, the Aristotelian background along with the references to God, angels, and paradise would make the Latin West sympathetic to this particular treatise.

Could these texts or similar ones, transmitted in writing or orally, have been known to John of Salisbury and/or some of his contemporaries? The translations of Gerard and Gundissalinus must, for the most part, have been produced in the second half of the twelfth century. However, considering the number of translations, some are likely to have been produced before the *Metalogicon*.¹⁷⁴ We know for a fact that the collaboration between Gundissalinus and Avendauth (probably Abraham Ibn Daud) on a translation of Avicenna's *De anima* took place between 1152 and 1166.¹⁷⁵ Both Al-Fārābī's *On the Sciences*, and Al-Ghazālī's *Intentions of the Philosophers* (if translated by Gundissalinus) could also have been available. It is not known for certain who translated the *Liber introductorius*, but if it was John of Seville, as has been suggested, it might have been available even in the 1130s or 1140s. If the translator was Gerard, despite stylistic arguments to the contrary, it might still have been available at the middle of the twelfth century.¹⁷⁶ Certainly, this particular treatise shows that works concerned specifically with demonstrative science existed in the twelfth century (whether in the form of compendia, florilegia, scholia, or simply brief sentences resembling the later *Auctoritates Aristotelis*), and possibly before 1150. In connection with the Latin translations of demonstrative works from the Arabic tradition, it is important that Alexander Neckham's use of *quale est* instead of the common *quia* for Aristotle's *τὸ ὅτι* may point to an Arabic source.¹⁷⁷

¹⁷³ *Liber introductorius*, ed. by Nagy, v, p. 64.

¹⁷⁴ But see de Libera, *La Philosophie médiévale*, pp. 346–47, for the view that Gerard did all his translations late in the century. I am not sure why this has to be so.

¹⁷⁵ Avicenna, *Liber de anima*, ed. by Van Riet, I, p. 95*; Hasse, *Avicenna's 'De anima'*, pp. 4–5.

¹⁷⁶ Al-Kindi, *Die philosophischen*, ed. by Nagy, p. xxx; de Libera, *La Philosophie médiévale*, p. 348, believes that Gundissalinus did, or at least participated in making, the translation.

¹⁷⁷ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 68, 76.

In general, the Latin West was familiar with Arabic knowledge even before Gerard of Cremona's and Gundissalinus's most active periods. Adelard of Bath, Hermann of Carinthia, and Petrus Alfonsi, for example, all make clear through their writings that they have contact with both traditions, and that they are trying to establish Arabic learning in the West. For instance, in the prologue to his *Questions on Natural Science* (*Quaestiones naturales*) from the early twelfth century, Adelard informs us that he has recently returned to England and has been asked by his nephew to tell him about something that he has learned from the Arabs and that is not known among the Latins.¹⁷⁸ Adelard had left his studies in France to attain Arabic knowledge, and it soon becomes obvious that the nephew wants to contrast French and Arabic studies, an exercise in which Adelard was thoroughly capable.¹⁷⁹ In fact, he insists that one should strive to learn from 'masters of different peoples' (*diversarum gentium doctores*), that is, Greek, Latin, and Arabic.¹⁸⁰

Also, the Latin West certainly knew Adelard's translations of Euclid's *Elements*, so there is every reason to think that he may have transmitted other pieces of knowledge as well. Further contemporary examples of opportunities to attain foreign knowledge include Petrus Alfonsi, a Jew who was previously named Moses, but converted and came to England, where he worked as a physician for Henry I, and Hermann of Carinthia, who had direct contact with Peter the Venerable, who himself visited the translators in Spain. As a consequence of these and other relationships, it is not surprising that some Western thinkers knew Arabic learning; Peter the Venerable and Thierry of Chartres are particularly clear cases. Quite a few others are likely to have had some such knowledge. In general Chartres seems to have been very well equipped with new books on science.¹⁸¹ One should not claim that John's knowledge of the Arabic tradition was even remotely similar to that of Adelard and Hermann, but the sources of transmission were not too far away from him. He may have picked up some Arabic knowledge.

For the present purpose, the question of Arabic influence is important for several reasons, the two most significant being form and doctrine. As we saw in the preceding section, John liked the compendium form, despite his own claims

¹⁷⁸ Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, prologus, p. 82: 'aliquid Arabicorum studiorum novum me proponere exhortatus est'.

¹⁷⁹ Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, I, prologus, p. 90. See also Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 102–04.

¹⁸⁰ Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 68–70.

¹⁸¹ Burnett, 'The Contents and Affiliation of the Scientific Manuscripts', pp. 127–60; Burnett, 'The Blend of Latin and Arabic Sources', pp. 41–65.

to the contrary. Suitable compendia, concerned with demonstrative science and made by Latin scholars on the basis of the Aristotelian text itself (similar to the *Elenchi* compendia), are not extant, but the form of the *Liber introductorius* in particular, and the relevant sections of the other two Arabic treatises mentioned above, might be exactly what he needed.

On the doctrinal level, there are a number of eye-catching features in the Arabic treatises. First, the preoccupation with mathematics (the sciences relating to the *quadrivium*) is particularly indicative¹⁸² and would explain John of Salisbury's view that demonstration is a method with limited possibilities of application. If one accepts the division into geometrical and logical demonstration, as found in the *Liber introductorius*, but dismisses the logical one as not applicable to sciences, then one is left with precisely the view on demonstration found in the *Metalogicon*: the kind of demonstration that John accepts *is* only for use in mathematics. This division of demonstration into logical and geometrical is different from the simple link between geometry and demonstration often mentioned in the Latin tradition, probably particularly inspired by Boethius. It is perhaps noteworthy that use of the words 'geometrical demonstration' (*geometrica demonstratio*) is also found, for example, in Hermann of Carinthia's *De essentiis*; a Latin work but by a man well versed in the Arabic tradition.¹⁸³ He may, however, be referring primarily to geometrical illustration.¹⁸⁴ The preface to Adelard version III cited below also shows that a division into logical and mathematical demonstration was known elsewhere.¹⁸⁵

Second, it may be noted that the anonymous author describes the method of the wise as the dialectical approach, and this is in accordance with John's views on science. In fact, the entire *Liber introductorius* is very much concerned with 'argumentation', a concept that is perhaps most naturally applied to dialectic, although the author certainly wants to include demonstration. The Anonymus Cantabrigiensis in his commentary on the *Sophistici elenchi* has a very similar argument concerning 'discussion' (*disputatio*), which belongs primarily to dialectic but can also be extended to cover demonstration.¹⁸⁶ In addition, Al-Ghazālī

¹⁸² For a particularly clear exposition of the importance of the *quadrivium*-sciences in the Arabic tradition, see Al-Fārābī, *Über den Ursprung der Wissenschaften*, ed. by Baeumker.

¹⁸³ Hermann of Carinthia, *De essentiis*, ed. by Burnett, I, pp. 96, 136.

¹⁸⁴ See Hermann of Carinthia, *De essentiis*, ed. by Burnett, I, p. 216, on the fact that a particular *demonstratio* cannot be carried out entirely on a plane surface.

¹⁸⁵ See below p. 69 and n. 31.

¹⁸⁶ Cambridge, St John's, MS D.12, fol. 82^v.

points out that dialectical argumentation (*argumentatio dialectica*) is a very *useful* discipline.¹⁸⁷

Third, a number of other concepts that were already well known in other contexts in the West are found in the treatise explicitly related to knowledge and demonstration. In particular, one might note the use of 'meditation' (*meditatio*) and 'descriptions' (*descriptiones*).¹⁸⁸ Generally, such Arabic treatises could provide the reader with a theory of demonstration that was much simpler and more comprehensible than the one found in the *Posterior Analytics*.¹⁸⁹

However, these are all very general points, and since I cannot prove any direct Arabic influence on John, and since he is in some respects certainly *not* influenced,¹⁹⁰ I have limited myself to pointing out elements that would seem to be interesting and potentially important in the context of John's theory of science.¹⁹¹

2.4. Conclusion

It is clear that John of Salisbury draws on a rather impressive list of ancient works, even though one must remember that at least for classical poetry and non-philosophical writers he read a number of the authors in compendia and florilegia, and some of the best-known works of even prominent men like Cicero he appears not to have read in their original. For this reason, among others, I believe that it is unfortunate to describe John as a humanist, as is common in the scholarly world. However, the *Metalogicon*, in particular books III and IV, makes it clear that Aristotle's *Organon* is, and must be, the foundation of scientific education and theory; other authors are supplementary. The importance of the Arabic tradition in this respect is difficult to ascertain, but should not be exaggerated. Nonetheless, even though some modern scholars are strongly opposed to any

¹⁸⁷ Al-Ghazālī, *Tractatus de logica*, IV, in 'Logica Algazelis', ed. by Lohr, p. 278: 'Utilitas autem dialecticae multiplex est', followed by four relevant possibilities of use.

¹⁸⁸ Al-Ghazālī, *Tractatus de logica*, II, in 'Logica Algazelis', ed. by Lohr, p. 251.

¹⁸⁹ Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 75: 'This rather miscellaneous collection of items comes only partly (and even then not very closely) from the *Posterior Analytics*, but the reader would learn some of the important elements of the Aristotelian demonstration.'

¹⁹⁰ As Grellard points out to me, John's lack of knowledge of the *quadriivium* is an important example of this.

¹⁹¹ Green-Pedersen, *The Tradition of the Topics*, pp. 97–98 concludes that 'the Latin scholastics, to all appearances, owe nothing to their Greek or Arabic predecessors with respect to the interpretation of Aristotle's *Topics*'.

attempt to consider Arabic views as potentially important in a twelfth-century Latin context, I remain convinced that such investigations should not simply be dismissed as irrelevant. It is, after all, noteworthy that the most substantial treatments of demonstration and demonstrative science found in the twelfth-century Latin world are, apart from the *Posterior Analytics* itself, Arabic texts in Latin translations.

In general, John does not distinguish as clearly as one might have wished between philosophical, non-philosophical, and poetic authors, and as a consequence unsubstantiated claims are found, for example in the classical poets, next to well-founded arguments by Aristotle. However, clear distinctions were certainly still made at this time, and earlier.¹⁹²

Fortunately for the present investigation, the ‘problem’ is bigger in the *Policraticus* than in the *Metalogicon*; in the latter, the authority of poets is primarily invoked in the prologues, and it usually occurs without influencing the general theory of the work as a whole. This indicates that, according to John, logic, contrary to ethics and political theory, can never be based and/or argued on intuitive acceptance of a subjective statement, no matter who stated it.¹⁹³ At the same time, John’s treatment of and general views on classical poetry are also relevant to our understanding of John as a philosopher, and even though the argument of the section on other sources in particular has been speculative to some extent, it is, I think, in complete accordance with John’s general views as I described them in the preceding chapter on the basis of his formative experiences in Paris.

¹⁹² See, for example, the ninth-century testimony of Remigius of Auxerre: Remigius of Auxerre, *Commentum in Martianum Capellam*, ed. by Lutz, I, p. 66: Poetarum enim est ludere et lascivire, philosophorum autem rerum veritatem subtili ratione inquirere (‘The poets have the role of making playful and sportive works, whereas the philosophers have the role of examining the truth of things by strict reason’). Remigius also makes a distinction between *studia humana* and philosophy.

¹⁹³ See also John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 24–25 (bk 1, prologus), for John’s views on ‘authority’. And compare Cicero, *Topica*, § 73; Boethius, *De topicis differentiis*, ed. by Nikitas, III.4, p. 57.

TWELFTH-CENTURY LOGIC AND SCIENCE

3.1. *Introduction: Science in the Twelfth Century*

3.1.1. *Status quaestionis*

We have now established that Aristotle's writings are the basic works informing the theories that John of Salisbury puts forward in the *Metalogicon*. These are concerned primarily with education, but seeing that he is talking about the education of philosophers and scientists, much can be gathered from the *Metalogicon* concerning his ideas about science. First, the stage must be set by investigating the twelfth-century views on science.

At least from the end of the twelfth century, the *Posterior Analytics* began to establish its position as the most important work on scientific theory. Alexander Neckham's studies in Paris, which seem to have been influenced by the *Posterior Analytics*,¹ bear witness to this fact; for he tells us that the masters 'read' (that is, 'lectured on') the text, at least when he wrote the *De naturis rerum* and maybe already when he studied in Paris, which was probably in the 1170s.² Further, the Paris statutes of 1215 inform us that there were at this time lectures on both the old and the new logic. I believe that Neckham's testimony proves that the Paris statutes include the *Posterior Analytics* as part of the curriculum at least around

¹ On Neckham and the *Posterior Analytics*, see Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 66–69.

² Alexander Neckham, *De naturis rerum*, ed. by Wright, chap. 173, p. 293: 'Antequam legeretur liber ille [*scil.* liber Posteriorum Analyticorum], asserebant doctores Parisienses nullam negativam esse immediatam' (Until they began to 'read' the *Posterior Analytics*, the Parisian doctors asserted that no negative proposition is immediate). See Aristotle, *APo.*, I.15, 79a33–b22.

1200.³ Suggestions to the contrary, such as Roger Bacon's claim that he witnessed a certain master Hugh lecture on the *Posterior Analytics* as the first scholar to do so are clearly exaggerations.⁴ Bacon may have been prompted by the fact that the *Posterior Analytics* was certainly not generally well known even at the beginning of the thirteenth century; and his general purpose in the paragraph is to show that the Latins did not know Aristotle well.

The first extant commentary on the text is Robert Grosseteste's from around 1230,⁵ and even though other resources were previously available, as we have already seen,⁶ Grosseteste marks the beginning of serious study of the *Posterior Analytics*, despite the rather idiosyncratic nature of his commentary.⁷

The twelfth century seems to have been more 'flexible' when it came to establishing theories of science. Science was not yet thoroughly and exclusively Aristotelian, and very different positions on the issue might still be taken. For instance, one could certainly use the *Posterior Analytics*, but John of Salisbury provides the best possible evidence that scholars of his day were not forced to do so. In general, echoes of the *Posterior Analytics* heard in the twelfth and early thirteenth centuries are very faint. Modern scholars have pointed to men like Hugh of Honau, Robert of Torigny, Simon of Tournai, and a number of anonymous authors, but it seems to me that the references found in their works are so doubtful that their knowledge of the treatise may well be disputed.⁸

At the present *status quaestionis* there is admittedly still a lot of work to be done, before we have a clear picture of science in the twelfth century. At least four areas must be investigated more carefully: (1) the in some respects well-known, but difficult, thinkers such as Adam of Balsham, Gilbert of Poitiers and others,

³ See the first volume of *Chartularium universitatis Parisiensis*, ed. by Denifle and others, pp. 78–79.

⁴ Roger Bacon, *Compendium of the Study of Theology*, ed. and trans. by Maloney, 1.2.14, p. 46: 'Et vidi magistrum Hugonem, qui primo legit librum Posteriorum.'

⁵ Edition: Grosseteste, *Commentarius*, ed. by Rossi. On dating Grosseteste's works, see Dales, 'Robert Grosseteste's Scientific Works', pp. 381–402; McEvoy, 'The Chronology of Robert Grosseteste's Writings', pp. 614–55; Southern, *Robert Grosseteste*, pp. 111–40.

⁶ See above pp. 2.1.2 and 2.3.

⁷ Evans, 'The "Conclusions" of Robert Grosseteste's Commentary', pp. 729–34; Ebbesen, 'Medieval Latin Glosses'; Speer, '*Scientia demonstrativa*', pp. 25–40; Bloch, 'Robert Grosseteste's *Conclusions*', pp. 1–23; Van Dyke, 'An Aristotelian Theory', pp. 685–704.

⁸ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 69–72; Ebbesen, 'Echoes of the *Posterior Analytics*'.

and their understanding of demonstrative science;⁹ (2) the commentaries and compendia of the twelfth century, in particular those on the *Sophistici elenchi* and fallacies in general, on which extensive work has been done,¹⁰ but very little on demonstrative science, and perhaps more work can also be done on Euclidean works from this point of view;¹¹ (3) the use of well-known authorities such as Cicero, Boethius, Augustine, and others; and (4) the use, or lack of use, of the Arabic tradition.

Still, viewed from the present scholarly *status quaestionis*, the situation seems to have been approximately as follows in the first half of the twelfth century.¹² As we have already seen, the *Posterior Analytics* had most likely been translated around 1130, but its influence throughout the twelfth century was not as profound as one would have expected from this Aristotelian masterpiece on demonstrative science.¹³

The dominant theory of science and how to obtain knowledge was derived from Augustine's works and his neo-Platonically inspired views, possibly combined with Arabic sources.¹⁴ God is truth. To know is to fully realize the truth,

⁹ I have indicated some possibilities in Bloch, 'John of Salisbury, "John" the Translator'. My preliminary investigations suggest that Adam may be interesting, whereas Gilbert is less likely to be so.

¹⁰ De Rijk, *Logica Modernorum*; 'Anonymus Aurelianensis II', ed. by Ebbesen; 'Anonymi Aurelianensis I *Commentarium*', ed. by Ebbesen; 'Anonymus Parisiensis, *Compendium*', ed. by Ebbesen and Iwakuma; Ebbesen, 'Medieval Latin Glosses'; 'Anonymi Parisiensis *Compendium*', ed. by Ebbesen.

¹¹ For just some of the relevant studies of Euclidean texts and method in the twelfth century, see Clagett, 'The Medieval Latin Translations', pp. 16–42; Clagett, 'King Alfred and the *Elements* of Euclid', pp. 269–77; Murdoch, 'The Medieval Euclid', pp. 67–94; Murdoch, 'Euclid', pp. 437–59; Evans, 'Boethian and Euclidean Axiomatic Method'; Burnett, 'Scientific Speculations', pp. 159–60; Knorr, 'John of Tynemouth', pp. 293–330; Brentjes, 'Remarks', pp. 115–37, and generally the work of W. R. Knorr. The relevant editions have been published in Robert of Chester (?), *Redaction of Euclid's Elements*, ed. by Busard, and John of Tynemouth, *Redaction of Euclid's Elements*, ed. by Busard.

¹² For scholarly work on science in the twelfth century, see Dod, 'The Study of Aristotle's *Posterior Analytics*'; Serene, 'Demonstrative Science', pp. 496–517; Burnett, 'Scientific Speculations'; Dreyer, 'Regularmethode und Axiomatik', pp. 145–57; *Erkenntnis und Wissenschaft / Knowledge and Science*, ed. by Lutz-Bachmann, Fidora, and Antolic. In general, *A History of Twelfth-Century Western Philosophy*, ed. by Dronke, contains much interesting material.

¹³ Dod, 'The Study of Aristotle's *Posterior Analytics*'; Ebbesen, 'Echoes of the *Posterior Analytics*'; Bloch, 'John of Salisbury, "John" the Translator'. See also above 2.1.2 and below 4.2.4–4.2.7.

¹⁴ For a concise description of the Augustinian theory of science, see Serene, 'Demonstrative

and that is, then, to realize God and the eternal exemplars found in him. Access to this truth can only be gained by divine help; man cannot himself obtain it through reason or any other aid. Thus, the cognition of truth is a rather passive reception by which the human being benefits from the faculties given by nature, but in addition an 'internal illumination' (*interior lux*) is provided by divine grace; without this human beings have no possibility of fully realizing the real and universal truths.¹⁵

Such views would seem to be very far from the theory of science posited by Aristotle in which one's rational and logical approach, based on clear perceptions and solid memory and experience, is the single most important factor. Around 1230 the first extant Latin commentator on the *Posterior Analytics*, Robert Grosseteste, famously integrated thoroughly Augustinian elements in his interpretation of Aristotle's text, thus bringing the two different traditions together.¹⁶ John of Salisbury's works also contain clear indications of the older Augustinian theories.¹⁷ It must also be noted that John, following a purely Augustinian tradition, regarded the philosopher as one who loves God (*amator dei*); studies of the Bible and the sacred texts were the primary ones for the philosopher.¹⁸ This particularly 'religious' approach to philosophy and the philosopher was, of course, common

Science', pp. 498–500. For the Arabic sources, see Jolivet, 'The Arabic Inheritance'. On John's respect and reverence for Augustine, see, for example, John of Salisbury, *Metalogicon*, ed. by Hall, iv.15, pp. 152–53.

¹⁵ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 418–25 (bk VIII, chap. 25). See also John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 223–50, 273–78, 629–54, pp. 121, 123, 147–49.

¹⁶ On the date, see above p. 64, n. 5; for use of *interior lux* and other Augustinian elements in Grosseteste's commentary, see Van Dyke, 'An Aristotelian Theory'. See also Bloch, 'Robert Grosseteste's *Conclusiones*', pp. 8–10 with notes 33–34, and 38 for further references.

¹⁷ John of Salisbury, *Metalogicon*, ed. by Hall, iv.39, pp. 178–79; John of Salisbury, *Policraticus*, ed. by Webb, II, p. 115 (bk VII, chap. 7); John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 379–414, 629–54, 679–84, 995–1012, 1097–1108, pp. 131–33, 147–49, 149–51, 171, 177; also below 4.2.8 and the Conclusion.

¹⁸ John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 53 (on Bernard of Chartres's teaching): 'Sed quia nec scholam nec diem aliquam decet esse religionis expertem, ea proponebatur materia quae fidem aedificaret et mores' (Since no school or any day should be without religion, such matters that would build up faith and morals, were set forth). See also John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 119–20, 135 (bk VII, chap. 8, bk VII, chap. 11); John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 307–08, 1269–74, pp. 125, 187; and Jeuneau, 'Jean de Salisbury et la lecture des philosophes', pp. 87–88.

in the first half of the twelfth century. For instance, Moses is referred to by several philosophically minded authors of the twelfth century; thus Thierry of Chartres considered him 'the most able and prudent as well as a divine philosopher' (*peritissimus philosophorum, prudentissimus philosophorum, and divinus philosophus*).¹⁹ Conrad of Hirsau says that in nurturing the liberal arts we are actually serving our lord; such a person 'does philosophy in Christ' (*in Christo philosophatur*).²⁰

Still, Augustine was not the only major authority in the first half of the twelfth century; as I have already said, there were other ways to a thoroughly rational demonstrative science than Aristotle's *Posterior Analytics*.

First, other Aristotelian works of logic, accessible at least from the beginning of the twelfth century, contained some slight but clear information about demonstrative science as distinct from probabilism and eristic argument.²¹ The *Topics* and the *Sophistici elenchi* both introduce demonstration as a particular kind of λόγος, or *oratio* in the Latin translation, and at least the latter text was known in the 1120s.²² The passage in the *Elenchi* also states that more information about demonstration is to be found in the *Analytics*, and the commentaries on the former give further, albeit not substantial, information.

Second, and equally importantly, there is abundant evidence in different treatises of the twelfth century that a figure, known in the West under the name of 'Alexander', provided the Latins with some knowledge of demonstration. This 'Alexandrian' material was Greek texts that had been translated into Latin, but the precise nature of this material (full commentaries, scholia, or compendium/-a) is a problem that is open for discussion. In any case, treatises throughout the century bear witness to the use of a not-extant but extensive source of demonstrative science.²³ The Arabic compendia may have worked similarly.

¹⁹ See Jeuneau, 'Gloses et commentaires de textes philosophiques', p. 119 with his notes 10–13. See also John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 1195–1214, p. 183.

²⁰ Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, pp. 74–75.

²¹ On these types, see below 3.1.3.

²² Aristotle, *Topica*, I.1, 100a25–101a4 and *Sophistici elenchi*, 2, 165a38–b11.

²³ For some of the most relevant treatises, and for further evidence, see the following works: De Rijk, *Logica Modernorum*; 'Hugh of Honau', ed. by Häring; 'Anonymus Aurelianensis II', ed. by Ebbesen; 'Anonymi Aurelianensis I *Commentarium*', ed. by Ebbesen; Ebbesen, *Commentators and Commentaries*; Ebbesen, 'New Fragments of "Alexander's" Commentaries'; 'Anonymi Parisiensis *Compendium*', ed. by Ebbesen; Ebbesen, 'Echoes of the *Posterior Analytics*'. Also, two editions of important anonymous commentaries on the *Prior Analytics* (probably 1160–1180) and on the *Sophistici elenchi* (c. 1200) are currently being prepared by Thomsen Thörnqvist and

Third, some of the best-known works by Boethius not only briefly described the fundamental elements of demonstration, but, like the *Elenchi*, they also made it clear that there was a work by Aristotle on this subject.²⁴ There is explicit evidence in the presumably earliest extant glosses on the *Elenchi* (dated to the period 1140–60) that Boethius was used for the understanding of demonstration.²⁵

Fourth, one could read in Cicero's *Academica* that the kind of proof 'which is called *apodeixis* in Greek' was defined as 'reasoning that leads from things perceived to things that are not perceived', which, although it is a non-Aristotelian definition, emphasizes one of the crucial elements in demonstration: its reliance on prior perceptions.²⁶ John probably did not have access to the *Academica*, but it is possible that the Ciceronian thoughts reached him through florilegia.

Thus, even those without firsthand knowledge of Aristotle's *Posterior Analytics* would have known a general description of demonstration. Hugh of St Victor, writing in the 1120s, illustrates well what one could know about demonstration without having knowledge of the *Posterior Analytics*.²⁷

The Euclidean tradition of the *Elements* in particular was also of help here.²⁸ Mathematics, and especially geometry, was, as seen also in John of Salisbury's text, the paradigmatic science of demonstration.²⁹ Not only did the Latins learn a deductive approach in which theorems were derived rigidly and by necessity from axioms or previously established theorems; they were also sometimes informed that there was a direct connection between the excellent methods of mathematical sciences and the theory of science put forward in the *Posterior Analytics*, although perhaps such references to the *Posterior Analytics* were not common before the

Ebbesen respectively.

²⁴ Boethius, *In Isagogen Porphyrii Commenta*, ed. by Brandt, *editio prima*, p. 12, l. 10–p. 13, l. 16; Boethius, *In Isagogen Porphyrii Commenta*, ed. by Brandt, *editio secunda*, p. 157, l. 7–p. 158, l. 20; Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, II.11, pp. 16–20, 47; Boethius, *De divisione*, ed. and trans. by Magee, p. 32.

²⁵ *Glose in Aristotilis Sophisticos Elencos*, I.2, in De Rijk, *Logica Modernorum*, I, p. 201.

²⁶ Cicero, *Academica*, II.8.26: 'Argumenti conclusio, quae est Graece ἀποδείξις, ita definitur: "ratio quae ex rebus perceptis ad id quod non percipiebatur adducit."'

²⁷ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, II.30, III.1, pp. 46–47, 48.

²⁸ For references to the scholarly literature on this topic, see above p. 65, n. 11. For other scientific works employing demonstrative procedures and known to the Latin West, see Burnett, 'Scientific Speculations', p. 161.

²⁹ John of Salisbury, *Metalogicon*, ed. by Hall, IV.6, p. 145; John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 106–17 (bk II, chaps 18–19).

thirteenth century. In a preface to a version of Euclid's *Elements* ('Adelard version III'), which was previously believed to be from the twelfth century but has now been shown to belong to the 1220s,³⁰ the author writes:

Demonstration is an argumentation that proceeds from primary and true principles [or 'premises'] to their conclusions. For the art here put forward is arranged in such a way that consequences follow necessarily and successively from the premises or from the principles. For there is one demonstrative science that teaches to demonstrate and itself demonstrates, such as the [one presented in the] *Posterior Analytics*, and one that demonstrates but does not teach how to demonstrate, such as geometry.³¹

Note, however, that W. R. Knorr has suggested that the author of this preface, presumably John of Tynemouth, is directly dependent on Robert Grosseteste's work on the *Posterior Analytics*.³²

Furthermore, a text by Henry Aristippus mentioned above,³³ which is certainly from the twelfth century, also connects Aristotle's *Posterior Analytics* with Euclid, albeit this time with his *Optics*. The text is inserted as a preface to Aristippus's translation of the *Phaedo*, and it is addressed *ad Roboratum* (probably Aristippus's pun on a certain Robert, perhaps Robert of Selby). This Roboratus is planning to leave Sicily and go back to England, and Aristippus is trying to convince him to stay by pointing out to him all the books to which he has easy access in Sicily, apparently contrary to the situation in England:

In Sicily you have the Syracusan and Greek library. Latin philosophy is not lacking. Theoridus of Brindisi is there to assist you, a man most learned in Greek literature. Your Aristippus is there, whom you can use at least as a whetstone if not as a blade. You have access to the *Mechanics* of Hero the philosopher, who discusses the

³⁰ Knorr, 'John of Tynemouth'; John of Tynemouth, *Redaction of Euclid's Elements*, ed. by Busard, I, pp. 7–19. In previous publications, I have referred to this preface as a twelfth-century work. I thank C. Burnett for correcting me on this point.

³¹ Cited from John of Tynemouth, *Redaction of Euclid's Elements*, ed. by Busard, I, p. 33: 'Est autem demonstratio argumentatio, arguens ex primis et veris vel illorum conclusionibus. Sic enim ars proposita contexta est quod sequentia accidunt ex premissis necessario aut principiis deinceps. Est enim demonstrativa scientia quae docet et demonstrare et demonstrat, ut Posteriores Analeti, et quae demonstrat et non docet demonstrare, ut geometria.' Also found with a few textual variants in Clagett, 'King Alfred and the *Elements* of Euclid', p. 275.

³² Knorr, 'Falsigraphus vs. Adversarius', p. 351. As Bernard Dod points out to me, this would, of course, put Grosseteste's commentary back into the (early?) 1220s. This might be a problem, since Grosseteste's 'Aristotelian' development seems to have taken place primarily in the 1220s, and the commentary on the *Posterior Analytics* is obviously a mature work.

³³ See above pp. 41–42 and n. 90.

void so subtly, how great its power is and the speed of movement through it. You have access to the *Optics* of Euclid, who discusses so truthfully and wonderfully what appears by seeing (*de opinione videndi*) that these appearances (*opinabilia*) are proved by demonstrative reason. On the principles of the sciences you have access to Aristotle's *Posterior Analytics*, in which work he debates what goes beyond nature and sensation on the basis of axioms that are gained through nature and sensation.³⁴

It must be noted that this last text is set in a Greek context, and perhaps it even refers to Greek texts,³⁵ but the connection made between Aristotle and Euclid is clear. The mention of the *Optics* rather than the *Elements*, both thoroughly demonstrative works, is, of course, caused by the fact that the *Elements* was easily accessible in the Latin world, whereas the *Optics* was not. Still, these two texts show that some scholars of the twelfth century knew quite a few things about the value of Aristotelian science, and at least something about the contents of his theory of demonstrative science. Otherwise, the connection between Euclid and Aristotle would not have been made. It should also be noted, however, that the description is close to the one just cited from Cicero's *Academica*.³⁶

Finally, there was an immensely important work by Boethius: *De hebdomadibus* or *How Substances Can Be Good in Virtue of their Existence Without Being Absolute Goods*.³⁷ As is clear from the long title, Boethius discusses in this work a problem concerning substances, but he does so 'as it is usually done in mathematics and in related disciplines', that is (in Boethius's case), by stating a number of axioms and rules from which the arguments are deduced.³⁸ This procedure

³⁴ Plato, *Phaedo*, trans. by Aristippus, p. 89: 'Habes in Sicilia Siracusanam et Argolicam bibliothecam; Latina non deest philosophia; Theoridus assistit Brundusinus, Graiarum peritissimus litterarum; Aristippus tuus praesens est, cuius si non acie verum cote fungi poteris. Habes Eronis philosophi Mechanica prae manibus, qui tam subtiliter de inani disputat, quanta eius virtus quantaque per ipsum delationis celeritas. Habes Euclidis Optica, qui tam vere et mirabiliter de opinione videndi disserit, ut opinabilia ratiocinatione probet demonstrativa. Habes de scientiarum principiis Aristotelis Apodicticen, in qua supra naturam et sensum de anxio matris a natura et sensu sumptis discepat.'

³⁵ Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 61.

³⁶ See above p. 68, n. 26.

³⁷ Edition: Boethius, *De consolazione*, ed. by Moreschini. Latin (but uncritical) text and translation: Boethius, *Theological Tractates; The Consolation*, trans. by Stewart, pp. 38–51. For a thorough study, see Schrimpf, *Die Axiomenschrift des Boethius*; and see Lohr, 'The Pseudo-Aristotelian *Liber de causis*', pp. 53–54; Burnett, 'Scientific Speculations', p. 157.

³⁸ Boethius, *De consolazione*, ed. by Moreschini, p. 187: 'Ut igitur in mathematica fieri solet ceterisque etiam disciplinis, praeposui terminos regulasque quibus cuncta quae sequuntur efficiam.'

is purely deductive (or rather, demonstrative) and, if at some point the reader cannot see the strictly demonstrative nature, it is his own fault, Boethius claims, because any capable scholar and thinker will understand the deduction and supply the relevant argument.³⁹ Since Boethius explicitly uses mathematics as his model, one would naturally regard the process as demonstrative in the Aristotelian sense of the word. It seems particularly noteworthy, however, that he posits as the first principle, or rule, the dialectical distinction between conceptions common for all men and those that are common only for the wise.⁴⁰ For this means that dialectic and demonstration are not clearly distinguished from each other.

The *De hebdomadibus* was well known in the twelfth century, as witnessed, for instance, by the commentaries on Boethius's *Opuscula sacra* by prominent thinkers such as Thierry of Chartres, Gilbert of Poitiers, and the former's pupil, Clarembald of Arras.⁴¹ Burnett has even identified influence of the *De hebdomadibus* in John of Salisbury's treatment of the *Posterior Analytics*.⁴²

In addition to the Augustinian theory and the relevant texts on demonstrative science, the twelfth century was also well disposed to topical logic as the way to knowledge, and thus scholars were prepared for Aristotle's *Topics*. Cicero's *Topics* and Boethius's *De topicis differentiis* were the most important, and in general it seems that dialectic among very prominent masters of the early twelfth century was characterized at the basic level by *interrogatio*, that is, questioning and inquiring, which is a method based on doubt.⁴³ True, Abelard explicitly states in the *Dialectica* that *interrogatio* is not the concern of dialectic as such.⁴⁴ But he also says elsewhere that diligent and constant *interrogatio* is the most important, or first, key to wisdom,⁴⁵ which means that *interrogatio* constitutes philosophy, since

³⁹ Boethius, *De consolazione*, ed. by Moreschini, p. 188: 'Sufficiunt igitur quae praemisimus; a prudente vero rationis interprete suis unumquodque aptabitur argumentis' (What we have now put forward [*scil.* the preceding remarks and the axioms stated], then, are sufficient; the intelligent interpreter of the discussion will apply each of them to the [proper] arguments).

⁴⁰ Boethius, *De consolazione*, ed. by Moreschini, p. 187.

⁴¹ Editions: in *Commentaries on Boethius*, ed. by Häring; Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring; Clarembald of Arras, *Life and Works*, ed. by Häring.

⁴² Burnett, 'Scientific Speculations', p. 157.

⁴³ See also Cicero, *Academica*, 1.2.5, on definition, partition and *interrogatio* as the disciplines of logic.

⁴⁴ Peter Abelard, *Dialectica*, ed. by De Rijk, II.1, pp. 152–53.

⁴⁵ Peter Abelard, *Sic et non*, ed. by Boyer and McKeon, p. 103: 'Haec quippe prima sapientiae clavis definitur, assidua scilicet seu frequens interrogatio' (PL 178, cols 1329–1610A, col. 1349).

philosophy is striving for wisdom.⁴⁶ Adam of Balsham informed his readers that there are two kinds of discourse: one that combines *interrogatio* (and *enuntiatio* in the sense of ‘claim to be examined’ or simply ‘proposition’) with *responsio*, and one that proceeds without these, that is, by exposition. His *Ars disserendi* must naturally be concerned with the first kind, which constitute the basis of discourse, and thus also of exposition.⁴⁷ According to Aristotle himself, only demonstration provides true knowledge, but in the twelfth century, dialectic obviously also contributed to theories of science.

These, then, were the most obvious texts and authors that contributed to twelfth-century Western knowledge of science and scientific theory. The sources were heterogeneous, at times even contradicting each other, some of them were highly innovative, and all of them were written by well-respected authorities of philosophy and/or theology. Thus, in the twelfth century, scholars and philosophers still had the opportunity to use different traditions of scientific theory, even a blend of them, in their own work.

3.1.2. Kinds of Knowledge and Logic

Still, some basic theoretical distinctions seem to have been part of the framework of logic and *eo ipso* of theories of science. In the Middle Ages logic was *the* philosophical tool by which one obtained knowledge (*scientia*). Certainly, there were several kinds of what we would call ‘knowledge’; for instance, there was a well-known distinction between knowledge (*scientia*) and wisdom (*sapientia*), with ancient roots, but through Cicero and Augustine in particular deeply integrated in the medieval worldview.⁴⁸ Furthermore, certain knowledge of an object might also be obtained by entirely non-rational processes, the most important and generally accepted being revelation. John himself informs the reader that faith (*fides*) is a position intermediate between opinion and knowledge.⁴⁹ In another

⁴⁶ Boethius, *De topicis differentiis*, ed. by Nikitas, II.6, p. 31.

⁴⁷ Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, IX, p. 7: ‘Disserendi autem genera sunt duo: unum quod interrogatione et responsione expeditur, ut in disputando; alterum quod sine eis [...]. Horum igitur eius quod ad alterum — ut in disputando — in hac arte ratio tradenda, reliquum autem — quod per se — ex ea paene satis intelligitur’; Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, XI, p. 8: ‘Principium disserendi ab interrogatione vel enuntiatione.’

⁴⁸ See, for example, Cicero., *De inventione*, I.1.1; Augustine, *Confessiones*, III.4.8; Augustine, *De trinitate*, XII.15, 25. See also below 4.2.8.

⁴⁹ John of Salisbury, *Metalogicon*, ed. by Hall, IV.13, pp. 151–52. See also John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, XIII, p. 32. See also Thierry of Chartres, *Lectiones in Boethii*

sense of the word, faith does, of course, transcend knowledge (*scientia*). Thus, it constitutes also the certain cognition of basic principles, and the process of coming to recognize things that do not appear to our senses. John's description of 'faith' seems to rest on Hugh of St Victor's *De sacramentis*, and Abelard's teaching may also have been instrumental in forming John's conception of 'faith'.⁵⁰ Still, in the processes in which man had the possibility of doing something himself to obtain knowledge, logic was the tool.

3.1.3. Demonstration, Dialectic, and Sophistry

The basic distinctions of logic in Aristotle's own works are not entirely clear, but it seems that a division of logical and argumentative activities into demonstrative, dialectical, and sophistic types is prominent and important.⁵¹ They all proceed by syllogisms or, in the case of sophistry, apparent syllogisms. This tripartite division and some of the essentials of the different disciplines were known before the new Aristotle became available.⁵² It is clear, however, that the demonstrative part was not primarily known in the developed form of 'demonstrative' but, rather, as the 'necessary' kind of argumentation; and even then the conception of 'necessity' rarely honours the demands of Aristotelian demonstration. Despite his Arabic training, Adelard of Bath, for instance, exemplifies such a position perfectly: arguments can be either 'probable, necessary, or sophistic',⁵³ and he often distinguishes among these forms of argument, but, on the necessary kind, he states in one passage that 'that which cannot be refuted, holds *sufficient* necessity' (my italics).⁵⁴ Also, his use of *demonstrare* in the phrase 'demonstrated [that is,

librum De trinitate, 1.18, in *Commentaries on Boethius*, ed. by Häring, p. 137, and Clarembald of Arras, *Tractatus super librum Boetii De trinitate*, 1.4, in Clarembald of Arras, *Life and Works*, ed. by Häring, pp. 86–87, on *credulitas*, i.e., a species of *fides*. Anonymus Aurelianensis II, *De paralogismis*, in 'Anonymus Aurelianensis II', ed. by Ebbesen, pp. 29–30, regards *fides creditiva* as the basis of the dialectical syllogism.

⁵⁰ For the use of *fides* in the Middle Ages, see Schmeck, 'Infidelis', pp. 129–47. For the ambiguity of *fides*, see also Palazzo, 'Il valore filosofico', pp. 127–28. On Abelard and 'faith', see Mews, 'Peter Abelard', p. 52.

⁵¹ Aristotle, *Analytica priora* (hereafter *APr.*), 1.1, 24a22–b15; *Topica*, 1.1, 100a25–101a17; *Sophistici elenchi*, 2, 165a38–b11.

⁵² Burnett, 'Scientific Speculations', pp. 154–55 and n. 16, for some of the sources.

⁵³ Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, p. 44.

⁵⁴ Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, 42, p. 170: 'Satis necessarium est quod refelli non potest.' See also Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, 66, p. 206, on weak necessity.

shown] for the moment' (*demonstratum ad praesens*) clearly shows that he does not hold an Aristotelian conception of demonstration.⁵⁵

Aristotelian demonstration produces the most certain kind of knowledge, and it is therefore the ideal method of proceeding in a process of scientific research.⁵⁶ The premises in demonstrative syllogisms must be 'true, primary, immediate, and better known than, prior to, and causes of the conclusion'.⁵⁷ The major problem with the demonstrative syllogism is that it is very difficult, some would say impossible, to honour such specific and strict demands in any other discipline than mathematics. Dialectic does not require that its syllogisms be based on such premises; dialectical premises must simply be generally probable and accepted by the person to whom they are presented.⁵⁸ As a consequence, dialectic can be used more broadly and freely than demonstration, but the result can never be absolutely certain knowledge. The result always depends on the acceptance of an interlocutor, real or imaginary, and this interlocutor may, of course, be mistaken in granting or refusing to grant a premise or argument. Finally, sophistic is not a knowledge-producing procedure at all. Instead, it is a procedure that appears to be producing knowledge while, in fact, doing no such thing. Its premises and the entire argument are designed to trick the interlocutor into thinking that the reasoning is cogent, although it is not; that is, the logic involved in the argument is flawed.⁵⁹ This kind of division, then, can be schematized as follows:

Type of argument	Premises	Type of knowledge
Demonstration	Necessary	Certain
Dialectic	Probable	Conditional
Sophistic	Deceiving	Apparent

Much can be said in favour of such a division of Aristotelian logic, but it is interesting to note that the resulting theory leaves out some of the works that nowa-

⁵⁵ Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, 46, p. 176: 'Demonstratum igitur ad praesens sit irrationabilia animalia prae ceteris esse intendere, non esse vitare' (Thus, let it be taken as shown for the moment that irrational animals, more than anything else, strive to exist and avoid not existing).

⁵⁶ On modern interpretations of the *Posterior Analytics*, see below p. 123, n. 194.

⁵⁷ Aristotle, *APo.*, trans. by Iacobi, 1.2, 71b19–23, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 7: 'Si igitur est scire ut posuimus, necesse est et demonstrativam scientiam ex verisque esse et primis et immediatis et notioribus et prioribus et causis conclusionis; sic enim erunt et principia propria ei quod demonstratur.'

⁵⁸ *Topica*, 1.1, 100a29–30, 100b21–23.

⁵⁹ *Topica*, 1.1, 100b26–101a17; *Sophistici elenchi*, 2, 165a38–b11.

days we usually group among the logical treatises. For there appears to be no particular place assigned to the *Categories* (on terms⁶⁰) and the *De interpretatione* (on propositions⁶¹). Today we might dispute the necessity of including the *Categories* in particular,⁶² but from a medieval perspective the omission would be unsatisfactory because the *Organon* was considered to be a coherent corpus of texts that covered logic in its entirety. Since Aristotle was thought to have included these two texts in this corpus, they had to be assigned a definite place and function.

One is left, then, with two options. Firstly, one might argue that the *Categories* and the *De interpretatione* are texts that provide the necessary foundation of logic, but are not themselves part of logic. In this case, an account of their contents is not needed in the definition of logic proper. Alternatively, a more extensive framework and definition of logic than the one presented above is indeed needed. The alternative is the more interesting, and the one generally preferred, although this does not exclude the first solution. It would only mean that one made the first option a part of a broad conception of logic.

3.1.4. *Inventio, Iudicium, and Other Logical Concepts*

Twelfth-century scholars also used some non-Aristotelian methods (although they did not see them as such⁶³) to elucidate both the nature of Aristotle's works and logic itself. For instance, in the 'Coventry Introduction' the author classifies and divides the sciences. As regards logic, he says, in accordance with Boethius, that it consists of three parts: knowledge of definition, knowledge of division, and knowledge of argumentation.⁶⁴ But it must also be noted that the author

⁶⁰ For modern discussions of the purpose and content of the *Categories*, see, for example, Aristotle, *Categories and De interpretatione*, trans. by Ackrill; Mann, *The Discovery of Things*; Aristotle, *Kategorien*, trans. by Oehler; De Rijk, *Aristotle: Semantics and Ontology*.

⁶¹ For modern discussions of the purpose and content of the *De interpretatione*, see, for example, Aristotle, *Categories and De interpretatione*, trans. by Ackrill; Whitaker, *Aristotle's De interpretatione*; Aristotle, *Peri Hermeneias*, ed. and trans. by Weidemann; De Rijk, *Aristotle: Semantics and Ontology*.

⁶² Frede, 'Categories in Aristotle', pp. 29–48.

⁶³ See John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 821–24, p. 159: 'Magnus Aristoteles sermonum possidet artes, // et de virtutum culmine nomen habet. // Iudicii libros componit et inveniendi // vera' (The great Aristotle possesses the arts of discourse, and he takes his name from the highest of the virtues. He composes books on judgement and on discovering truths). Cicero himself acknowledged Aristotle as the source of 'discovery': Cicero, *De oratore*, II.36.152.

⁶⁴ *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the

was somehow connected with Adelard of Bath, and thus his general views may have differed from that of many of his contemporaries. In particular, he mentions the title *Posterior Analytics*, but it is doubtful if he actually knew the work.⁶⁵ Also, the Arabic *Liber introductorius* introduces a fourfold division of logic into division, resolution, definition, and demonstration.⁶⁶ Finally, a logical method of using ‘counter-instances’ (*instantiae*) to test theses was also found in a number of twelfth-century texts.⁶⁷ It is clear from treatises edited by De Rijk in *Logica modernorum* and by Y. Iwakuma, such as the *De locis argumentationum*,⁶⁸ and not least from the *Ars Meliduna*, that the background of the ‘counter-instances’ method is the *Ars vetus*, and the Aristotelian-Boethian topical logic in particular.⁶⁹ Much work still needs to be done concerning *instantiae*, but it seems probable that John of Salisbury knew the method.⁷⁰ In general, it is clear that scholars of the twelfth century had more than one set of logical concepts and methods.

However, the most important non-Aristotelian method is the distinction between ‘discovery’ (*inventio*) and ‘judgement’ (*iudicium*).⁷¹ The use of these two concepts to structure logic is known nowadays primarily as the humanist approach to the subject found in the later Renaissance, but they were also prominent during the so-called twelfth-century Renaissance, and they are originally much older.⁷² The medievals could find both in Cicero, who had used

Classifications of the Sciences’, § 12, pp. 34–35: ‘Logica partes habet scientiam definiendi, dividendi, argumentandi.’ (The manuscript is Cambridge, Trinity College, MS R.15.16.)

⁶⁵ *Coventry Introduction to Boethius’s De arithmetica*, in Burnett, ‘Innovations in the Classifications of the Sciences’, § 76, p. 41.

⁶⁶ Above 2.3.

⁶⁷ ‘*Instantiae*’, ed. by Iwakuma; Iwakuma, ‘*Instantiae* Revisited’, pp. 61–80; Ebbesen and Iwakuma ‘*Instantiae* and 12th Century “Schools”’, pp. 81–85. Much material is, of course, found in De Rijk, *Logica Modernorum*. For a brief description of the method of *instantiae*, see Jacobi, ‘Logic (ii)’, pp. 242–45.

⁶⁸ ‘*Instantiae*’, ed. by Iwakuma, pp. 12–60, with introduction (his pp. 1–11) and notes (his pp. 61–73).

⁶⁹ See also ‘*Instantiae*’, ed. by Iwakuma, pp. 4–5.

⁷⁰ Jacobi, ‘Logic (ii)’, pp. 242–43.

⁷¹ On *inventio* and *iudicium* in medieval commentaries, see Green-Pedersen, *The Tradition of the Topics*, pp. 130–33.

⁷² On the issue of ‘humanism’, see, for example, Walsh, *Medieval Humanism*; Liebeschütz, *Mediaeval Humanism*, pp. 17–45; Olsen, ‘L’humanisme de Jean de Salisbury’, pp. 53–69 (see also discussion, pp. 70–83); Dotto, *Giovanni di Salisbury*, pp. 87–116; Olsen, ‘John of Salisbury’s Humanism’, pp. 447–68; de Libera, *La Philosophie médiévale*, pp. 310–12; Nederman, *John of Salisbury*, pp. 41–43. The issue is treated in Grellard’s forthcoming monograph. I have seen a

them in rhetorical theory along with style (*elocutio*), memory (*memoria*), and delivery (*pronuntiatio*), and who had defined dialectic as a discipline that uses ‘discovery’ and ‘judgement’.⁷³ He had also applied the concepts to his analyses of the famous philosophical ambassadors who came to Rome in 155 BC. Thus, as regards the Stoics, exemplified by Diogenes of Babylon, he informs us that their theory includes only ‘judgement’, not ‘invention’.⁷⁴ Although Cicero is primarily talking about eloquence, his analyses clearly blend philosophy with rhetoric. Note also that Cicero’s *Topics* is, of course, concerned with dialectical logic, but it ends with a treatment of the parts of oratory.

Boethius points out that there are not only dialectical *loci* but also rhetorical ones, and it is important to separate them.⁷⁵ The precise place of rhetoric in philosophical theories was, of course, a problem both before and after Cicero. John of Salisbury included both rhetoric and dialectic under probable logic,⁷⁶ and he was not the only scholar of the twelfth century to do so.⁷⁷ In practice, there are, however, important differences. Dialectic usually argues succinctly and uses syllogisms in order to convince the opponent in a debate, whereas rhetoric uses prolonged speech in an attempt to sway an entire audience, and thus more or less ignores the cogency of the argument.

Discovery signifies the process of finding the right kind of arguments in a given situation; judgement is the process of evaluating the argument and ascribing to it

draft and learned much from his work.

⁷³ Cicero, *Topica*, ed. by Reinhardt, § 6, p. 118: ‘Cum omnis ratio diligens disserendi duas habeat artes: unam inveniendi, alteram iudicandi, utriusque princeps, ut mihi quidem videtur, Aristoteles fuit. Stoici autem in altera elaboraverunt; iudicandi enim vias diligenter persecuti sunt ea scientia quam *διαλεκτικήν* appellant, inveniendi autem [autem om. Ed.] artem quae *τοπική* dicitur, quae et ad usum potior erat et ordine naturae certe prior, totam reliquerunt’ (Every careful method of argumentative reasoning involves two arts: one is that of discovering, the other that of judging, and it seems to me that Aristotle was first in both. The Stoics, in contrast, worked only on one of them; for they carefully pursued ways of judging by means of the science that they call *dialectice*, but the art of discovering, which is called *topice*, and which was both more important regarding practical use and certainly prior in the order of nature, they completely ignored).

⁷⁴ Cicero, *De oratore*, II.38.157–58, and the quotation in the preceding note.

⁷⁵ Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, IV.1, p. 2, 71. Books II–III of the *De topicis differentiis* are concerned with dialectical topics (in the technical sense), whereas book IV, based particularly on Cicero’s *De inventione* (Boethius, *De topicis differentiis*, trans. by Stump, pp. 141–42, n. 3), deals with rhetorical ones.

⁷⁶ John of Salisbury, *Metalogicon*, ed. by Hall, II.3, pp. 59–60.

⁷⁷ Hugh of St Victor, *Epitome Dindimi in philosophiam*, ed. by Baron, p. 200.

its proper place in a chain of thought. From the originally rhetorical theory the distinction was adopted into logical theory in general. After all, both logic and rhetoric are part of the *trivium* and are concerned, albeit in different degrees, with well-formed arguments. The indisputable premises of demonstrative logic are not the only ones that can be used in well-formed arguments; the probable premises found in dialectic make this discipline very similar to rhetoric in some respects. Cicero was a major authority, but even more prominent and important in this respect was Boethius, who, in his influential commentary on Porphyry's *Isagoge*, cited the passage from Cicero's *Topics*.⁷⁸ Furthermore, Boethius generally used the distinction in philosophical contexts, that is, as a division of logic.⁷⁹

In this way, 'discovery' and 'judgement' became concepts that were legitimately used to define logic. Although it is clear that a logic defined solely from these two is somewhat superficial, the basic distinction was generally acknowledged by all logicians who used the *De topicis differentiis*. Thus, it was well established in the twelfth century. For instance, Abelard claimed that it is not possible to be a logician if you are not good at 'discovering' and 'judging' arguments.⁸⁰ Hugh of St Victor divides logic into grammar and 'a system of argumentative reasoning' (*ratio disserendi*), and applies the discovery-judgement pair to the argumentative part.⁸¹ It is not surprising that additions and alterations to the Ciceronian views had been made already by Boethius himself, and the medievals themselves used the framework simply to develop more sophisticated theories. When the Aristotelian treatises began to gain ground, the 'discovery'/'judgement' distinction became less important, but in the twelfth century, scholars somehow had to take account of both.

John of Salisbury himself tells us that the philosophical authorities (that is, Boethius) had divided logic into the science of discovery and the science of judging, but at the same time, he says, they acknowledged that logic also comprises the sciences that make one competent in making divisions, definitions,

⁷⁸ Boethius, *In Isagogen Porphyrii Commenta*, ed. by Brandt, *editio secunda*, p. 139, l. 21–p. 140, l. 8.

⁷⁹ In particular, Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, p. 1: 'Omnis ratio disserendi, quam logicen Peripatetici veteres appellaverunt, in duas distribuitur partes: unam inveniendi, alteram iudicandi' (Every system of argumentative reasoning, for which the old Peripatetics used the term 'logic', is divided in two parts: discovery and judgement). See also Boethius, *De topicis differentiis*, ed. by Nikitas, III.2, p. 49.

⁸⁰ Peter Abelard, *Logica ingredientibus: Super topica glossae*, ed. by Dal Pra, 209.24–27: 'Nemo igitur logicus esse potest nisi qui discretus est in inventionem et iudicio argumentorum.' For an eleventh-century example, see Garlandus Compotista, *Dialectica*, ed. by De Rijk, IV, p. 86.

⁸¹ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, II.28–30, pp. 44–47.

and inferences.⁸² John can then assume a rather flexible framework of logic, and he proceeds in the *Metalogicon* by categorizing the different Aristotelian treatises under the headings of ‘discovery’ and ‘judgement’. Thus, he informs us that knowledge of the *Topics*, the *Prior* and *Posterior Analytics*, and the *Sophistici elenchi* will provide the possessor with the necessary abilities in both ‘discovery’ and ‘judgement’ to operate in every discipline.⁸³ The *Topics*, in particular, contributes to both ‘discovery’ and ‘judgement’.⁸⁴ John is, of course, well aware that the treatises examine different kinds of logic (that is, demonstrative, dialectical, and sophistical), but it seems that the ‘discovery’/‘judgement’ distinction is the more important to him.

Another way of combining the different descriptions and definitions of logic is found in an approximately contemporary compendium of the *Sophistici elenchi*, most likely from the third quarter of the twelfth century, and probably closer to 1150 than to 1175.⁸⁵ The anonymous author writes as follows at the beginning of the compendium:

⁸² John of Salisbury, *Metalogicon*, ed. by Hall, II.5, p. 61: ‘logicam diviserunt auctores in scientiam inveniendi et scientiam iudicandi, eandemque totam in divisionibus, definitionibus collectionibusque versari docuerunt.’ See also John of Salisbury, *Metalogicon*, ed. by Hall, II.6, p. 63. Compare, for example, the *Coventry Introduction to Boethius’s De arithmetica*, in Burnett, ‘Innovations in the Classifications of the Sciences’, § 12, pp. 34–35, cited above pp. 75–76, n. 64.

⁸³ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119: ‘His [Topicis, Analyticis et Elenchis] enim perfecte cognitis et habitu eorum per usum et exercitium roborato, inventionis et iudicii copia suffragabitur in omni facultate, tam demonstratori quam dialectico et sophistae’ (For when these treatises [*Topics*, *Prior* and *Posterior Analytics*, and *Sophistici elenchi*] are mastered perfectly, and the disposition produced by the mastery of these has been strengthened by use and training, the possessor, the demonstrator as well as the dialectician and the sophist, will be abundantly supplied concerning ‘discovery’ and ‘judgement’ in every discipline). I am not quite sure what ‘in every discipline’ (in omni facultate) means; either it is a general statement about philosophical investigations (McGarry), or it refers simply to abilities in methods of logic.

⁸⁴ Hendley, ‘John of Salisbury’s Defense’, p. 758, claims that ‘the method of judgment is primarily called for in demonstrative logic’. This was the usual medieval view, and Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, p. 1, could be adduced in support. But John explicitly acknowledges a role for ‘discovery’ also in analytics. Hendley’s view may be a misinterpretation of John of Salisbury, *Metalogicon*, ed. by Hall, IV.1, p. 140, but this passage treats the *Prior Analytics*, that is, the syllogism, not the *Posterior Analytics* (demonstrative logic). According to Cicero and Boethius, dialectic is concerned with ‘discovery’: Cicero, *Topica*, § 1–2; Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, p. 1. Reinhardt in Cicero, *Topica*, ed. by Reinhardt, p. 183, points out that this view is also found in the Greek tradition.

⁸⁵ Edition: ‘Anonymus Parisiensis, *Compendium*’, ed. by Ebbesen and Iwakuma, supplemented by new manuscript evidence in ‘Anonymi Parisiensis *Compendium*’, ed. by Ebbesen.

Every art of argumentative reasoning has three parts, discovery, judgement, and a third faculty is called inference. Inference is subdivided into three parts: one is the faculty of inference from true and necessary premises, which faculty the Greeks call ‘*apodictica*’ and we call ‘demonstrative’; a second is the faculty of inference from probable premises, and this is called ‘*dialectic*’; a third operates from false and sophistic premises, and this is named ‘*sophistic*’.⁸⁶

The author, known in the literature as Anonymus Parisiensis, operates with a tripartite division of logic, adding ‘inference’ to the time-honoured ‘discovery’ and ‘judgement’. He then introduces the original Aristotelian description of three logical branches: demonstration, dialectic, and sophistry, and classifies them as different kinds of inferences. Clearly, this is an intelligent attempt to combine Aristotelian and non-Aristotelian definitions.⁸⁷ John seems not to use ‘inference’ in his classifications, and he does not combine the two kinds of distinction as rigidly as Anonymus Parisiensis does.

A third kind of development is found in Anonymus Aurelianensis I’s commentary on the *Sophistici elenchi*, probably dating from somewhere between 1160 and 1180.⁸⁸ The anonymous author naturally follows Boethius in dividing logic into ‘discovery’ and ‘judgement’, but he then proceeds to divide judgement into four types: (1) a purging judgement of form, (2) a purging judgement of matter, (3) an instructing judgement of form, and (4) an instructing judgement of matter.⁸⁹ The division is inspired by remarks in *De topicis differentiis*, but note

⁸⁶ ‘Anonymus Parisiensis, *Compendium*’, ed. by Ebbesen and Iwakuma, p. 58: ‘Cum omnis ars disserendi tres habet partes, unam inveniendi et aliam iudicandi, dicitur tertia colligendi facultas. Colligendi tribus partibus subdividitur: alia est enim facultas [<colligendi> Ed.] ex veris et necessariis, quae a Graecis “*podictica*”, a nobis “*demonstrativa*” appellatur; alia est facultas colligendi ex probabilibus, quae “*dialectica*” dicitur; alia ex falsis et sophisticis, quae “*sophistica*” nuncupatur.’

⁸⁷ Quite a few interpreters seem to regard the division into demonstrative, probable, and sophistic logic as John’s basic distinction within logic. See, for example, McGarry, ‘Educational Theory in the *Metalogicon*’, pp. 670–71; Diez, ‘Lo que la historia ha pensado’. I suppose the view could be derived from John of Salisbury, *Metalogicon*, ed. by Hall, II.3, pp. 59–60. On this issue, I agree with Hendley, ‘John of Salisbury’s Defense’, pp. 757–60. Bellenguez, *Un Philosophe académicien*, pp. 101–02, occupies a middle position in stating that John wants to use both divisions as basic.

⁸⁸ ‘Anonymi Aurelianensis I *Commentarium*’, ed. by Ebbesen, pp. xvii–xxix.

⁸⁹ ‘Anonymi Aurelianensis I *Commentarium*’, ed. by Ebbesen, 0.1, pp. 6–7: ‘Ad cuius evidentiam notandum logices duas esse partes, ut dicit Boethius, scilicet inventionem et iudicium. Sed ut praetermittatur ad praesens de inventionem, sciendum quod iudicium aliud est purgans, aliud instruens, [...] Item, quoniam totius logices finis est syllogismus, et iudicium

that Anonymus Aurelianensis has made judgement the purging and instructing capacity instead of being the object of these actions, as Boethius stated.⁹⁰ The editor of the text suggests that this division of judgement may have arisen owing to some sort of misinterpretation, and it is in any case difficult to see its precise value.⁹¹ But for the present purpose it is important that ‘discovery’ and ‘judgement’ are conceived as a general framework within which different kinds of system may be devised.

The flexibility of John’s conception of logic, compared with the *Elenchi*-compendium, and to a lesser extent with the *Elenchi*-commentary, may not be accidental. For this flexibility is also the reason why he is relatively free to interpret the *Organon* without constant reference to more basic non-Aristotelian concepts such as ‘discovery’ and ‘judgement’. Thus, one might actually regard it as a reasonable position in scientific theory. It may also be noted that John would have learned in Paris that scientific investigation can be carried out without such references.⁹²

pars est logices, dicitur quoniam purgans \aliud est purgans/ materiae syllogismi, aliud purgans formae; similiter aliud instruens materiae, aliud formae.’

⁹⁰ Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, p. 1: ‘Et ea quidem pars quae iudicium purgat atque instruit’ (And that part [of logic] which purges and instructs judgement).

⁹¹ ‘Anonymi Aurelianensis I *Commentarium*’, ed. by Ebbesen, p. xxi.

⁹² See, for example, Guillaume de Conches, *Dragmaticon philosophiae*, ed. by Ronca, I.1.6, p. 6: ‘De eodem namque dialectice, sophistice, rhetorice, philosophice disserere possumus’ (We can examine the same object dialectically, sophistically, rhetorically, and philosophically). Note that William’s distinction does not explicitly include ‘demonstratively’. This might indicate a pre-*Logica nova* distinction, or at least partly, if ‘philosophically’ is taken in the sense of ‘demonstratively’, see Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, pp. 18–19; and compare Peter Abelard, *Dialectica*, ed. by De Rijk, III.1, III.2, pp. 273, 462. But see John of Salisbury, *Metalogicon*, ed. by Hall, II.5, p. 63, for a similar distinction in John’s work, and a possibly similar one is found in John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, xxiv, p. 55, where John talks about a certain cardinal priest named Guy who enjoyed discussions of ‘small dialectical and philosophical problems’ (quaestiunculas dialecticas et philosophicas saepius et libentius agitabat).

JOHN OF SALISBURY ON SCIENCE

4.1. John of Salisbury's Intellectual Foundation of Science

Until now I have attempted mainly to establish the external preconditions for John of Salisbury's theory of science, as they are to be gathered from his period of study in Paris and from the sources available to him. In this chapter I shall examine what he actually says himself about his intellectual foundation and general philosophical preconditions and views. The most important work is, of course, the *Metalogicon*.

4.1.1. Overview of the *Metalogicon*

It is probably fair to say that the *Policraticus* is the most popular and well-studied work by John of Salisbury, but C. C. J. Webb rightly noted that the *Metalogicon* is far more useful as regards our understanding of the twelfth century and of John's life.¹ From a philosophical point of view, I would claim that the *Metalogicon* is far more interesting than the *Policraticus*. For it is unique in its combination of polemical and educational purposes, and it provides us with a wealth of information concerning the intellectual life of the twelfth century, even if John is in 1159 somewhat rusty in philosophical matters. The work consists of four books, all of them preceded by a prologue. The general structure and argument of the books may be briefly schematized as follows:²

¹ Webb, *John of Salisbury*, p. 74.

² Lists containing the titles of all the chapters can be found in John of Salisbury, *Metalogicon*,

- Book I: The Cornifician error and the liberal arts
 - 1–6: Cornificius and the Cornificians
 - 7: John's praise of eloquence
 - 8–12: Logic and the arts
 - 13–25: Grammar
- Book II: The value of logic
 - 1–3: Introduction and the nature of logic
 - 4–10: The nature of dialectic
 - 11–15: The scientific value of dialectic
 - 16–20: The misuse of dialectic and the nature of genera and species
- Book III: Educational theory (part 1)³
 - 1: The use of Porphyry's *Isagoge* and other books in education
 - 2–3: The use of Aristotle's *Categories* in education
 - 4: The use of Aristotle's *De interpretatione* in education
 - 5–10: The use of Aristotle's *Topics* in education
- Book IV: Educational theory (part 2) and general observations
 - 1–5: The use of Aristotle's *Prior Analytics* in education
 - 6–8: The use of Aristotle's *Posterior Analytics* in education
 - 9–21: Discussions of matters related, albeit often only distantly, to the topics of the *Posterior Analytics*
 - 22–23: The use of Aristotle's *Sophistici elenchi* in education
 - 24: Against Aristotle's detractors
 - 25–39: Various discussions: logic, education, reason, truth

trans. by McGarry, pp. ix–xiii; John of Salisbury, *Metalogicon*, ed. by Hall, pp. 3–7. For general, accessible, and primarily descriptive, overviews of the *Metalogicon*, see Dal Pra, *Giovanni di Salisbury*, pp. 22–25; Kneepkens, 'John of Salisbury', p. 394; Nederman, *John of Salisbury*, pp. 62–75.

³ It has been argued to me that John is not really proposing an 'educational theory' but is expressing his personal preferences concerning education. I suppose that this is partly a matter of taste. But it seems to me that John's is not merely a fragmentary description but an elaborate programme for studies. See also McGarry, 'Educational Theory in the *Metalogicon*', and Hendley, 'A New Look at John of Salisbury's Educational Theory', who both use the concept of 'educational theory' in their analyses of *Metalogicon*.

- 40: The aim of the Peripatetics and eight obstacles to understanding
- 41: The limits of reason and the function of faith
- 42: A description of present-day affairs

John starts out simply with a defence of the *trivium*, and logic in particular, against the Cornificians as part of twelfth-century education. In the course of the work he significantly broadens his scope and ends up presenting a new educational theory with a curriculum that is basically Aristotelian.

Books I and II are introductory. John describes Cornificius and his followers as people who want more or less to abolish studies, and in particular studies concerned with the disciplines of the *trivium*. According to Cornificius and the Cornificians, as they are presented by John, one should not study the disciplines of the *trivium*. On the contrary, they are almost useless, and in any case they are not worth the great amount of time and effort that a study of them will take.⁴ Books III and IV describe the contents of the *Organon*, including Porphyry's *Isagoge*, and determine their place in a teaching curriculum. Book III discusses *Isagoge*, *Categories*, *De interpretatione* and, with particular care, the *Topics*. In addition to the descriptions of the *Prior Analytics*, the *Posterior Analytics*, and the *Sophistici elenchi*, book IV discusses quite a few other subjects; for instance, the nature and relationship of prudence and truth,⁵ the imperfection of human reason and the various senses of 'true',⁶ and many others. This gives book IV an apparently less coherent structure than the others.

John's intentions are realized, then, first by attacking the Cornifician position in the first two books of the *Metalogicon*, and then by building a new foundation of studies and science in the last two books.

⁴ For more on the Cornificians' position, see below 4.2.2, and Appendix 1.

⁵ John of Salisbury, *Metalogicon*, ed. by Hall, IV.14, p. 152. Title: 'De cognatione fronesis et alitiae et de ortu fronesis et quid ratio' (On the relationship between prudence and truth, and on the origin of prudence, and what reason is). Note that discussions of the relationship between knowledge (*scientia*) on the one hand and prudence (*prudentia*) and faith (*fides*) on the other are found in glosses on the *Posterior Analytics*. See Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 85.

⁶ John of Salisbury, *Metalogicon*, ed. by Hall, IV.33, p. 170. Title: 'Quod homo perfectam non habet rationem et quod verum multipliciter dicitur' (That humans do not have perfect reason, and that 'true' is used in many ways).

4.1.2. John as an Academic Sceptic⁷

I have already argued that John's views on classical studies, and in particular his views on the Latin poets as authorities, are important in order for us to establish what kind of intellectual foundation John of Salisbury had. His breadth of learning is certainly impressive, but, on the basis of his use of the poets, I also argued the point that John did not always distinguish clearly between a well-argued (the philosophical approach) and an unfounded case (the non-philosophical approach).⁸

John obviously had great, albeit not unqualified,⁹ respect for Aristotle, but in many ways he felt closer to another of the ancient authorities, Cicero:¹⁰ 'The Latin world has had nothing greater than Cicero!'¹¹ Thus, John's own position in philosophy and science is, as he claims several times and in several works, that of Ciceronian Academic scepticism.¹² It has even been argued that 'the *Metalogicon*

⁷ For scholarly literature on John's scepticism, see, for example, Dal Pra, *Giovanni di Salisbury*, pp. 64–67; Nederman, 'Beyond Stoicism and Aristotelianism', pp. 175–95; Grellard, 'Jean de Salisbury'. Grellard is currently preparing a monograph on this topic. Generally on medieval scepticism, see Perler, *Zweifel und Gewissheit; Rethinking the History of Scepticism*, ed. by Lagerlund.

⁸ See above 2.2.

⁹ John of Salisbury, *Metalogicon*, ed. by Hall, iv.27, p. 164. Title: 'Quod Aristoteles in multis erravit sed in logica eminet' (That Aristotle was mistaken in many things but preeminent in logic). See also John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 859–62, 873–74, 919–36, pp. 161, 163, 165–67. On ancient philosophers in general, see John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 93–95 (bk VII, chap. 1). On the title of 'philosopher' and its precise contents in the Middle Ages, see Schrimpf, 'Philosophi—philosophantes', pp. 697–727, with further references.

¹⁰ For scholarly works on John of Salisbury and Cicero, see Olsen, 'L'humanisme de Jean de Salisbury'; Schmitt, *Cicero Scepticus*, in particular pp. 26–38; Loundsbury, 'The Case of the Erudite Eyewitness', pp. 15–35; Tilliette, 'Jean de Salisbury et Cicéron', pp. 697–710; Escobar, 'Duce natura'; Schébat, 'Jean de Salisbury et Pétrarque', pp. 93–113. For more general information about Ciceronian influence on the Middle Ages, see *The Rhetoric of Cicero*, ed. by Cox and Ward; for the present purposes, in particular the article by Fredborg: Fredborg, 'Rhetoric and Dialectic', pp. 165–92. Nederman, 'Knowledge, Virtue and the Path to Wisdom', tries to minimize Ciceronian influence in comparison with Aristotelian influence.

¹¹ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verse 1215, p. 185: 'Orbis nil habuit maius Cicerone Latinus.' See also John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 126–27 (bk II, chap. 22).

¹² John of Salisbury, *Metalogicon*, ed. by Hall, I, prologus, II.13, II.20, III, prologus, pp. 11, 76, 91–92, 102; John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 25–26, 122 (bk I, prologus, bk II, chap. 22); John of Salisbury, *Policraticus*, ed. by Webb, II, p. 93 (bk VII, prologus).

and *Policraticus* [...] grew out of his [John's] close study of the classics, especially Cicero.¹³ While this can be seen as an exaggeration, the influence of Cicero cannot be disputed. Furthermore, it seems that Abelard's interests during the 1120s and the 1130s developed markedly towards ethics and theology, and, since only Aristotle's logic, not his ethics, was available, he turned to Cicero in particular.¹⁴ Thus, Abelard could also have been a source for Ciceronian views.

Still, it is a matter for discussion whether John actually read through Cicero's *Academics*; for he seems to have his information primarily from Augustine's *Against the Academicians* (*Contra academicos*).¹⁵ Regardless, he generally had good access to original sources.

In book IV of the *Metalogicon*, John makes his position clear by distinguishing three kinds of Academic sects:¹⁶

1. Those who doubt everything.¹⁷
2. Those who doubt everything that is not necessary and known *per se*.
3. Those who do not venture opinions on matters that even the wise cannot settle with satisfactory certainty.¹⁸

¹³ Lerer, 'John of Salisbury's Virgil', p. 24.

¹⁴ Marenbon, *The Philosophy of Peter Abelard*, pp. 51–53, and, in particular, Mews, 'Peter Abelard', pp. 52–53 with references.

¹⁵ John of Salisbury, *Metalogicon*, ed. by Hall, IV.26, p. 163 (a long quotation from Augustine, but John's reference to book I should, in fact, have been to book III); John of Salisbury, *Policraticus*, ed. by Webb, II, p. 98 (bk VII, chap. 2). Nederman thinks that John had most of his knowledge from Cicero himself, 'sometimes filtered through his [*scil.* Cicero's] Christian critics Augustine and Lactantius' (Nederman, 'Beyond Stoicism and Aristotelianism', p. 177).

¹⁶ John of Salisbury, *Metalogicon*, ed. by Hall, IV.31, p. 168: 'Academicus uero fluctuat, et quid in singulis verum sit definire non audet. Haec tamen secta trifariam divisa est. Habet enim qui se nihil omnino scire profiteantur, et cautela nimia demeruerint philosophi nomen. Habet alios qui se sola necessaria et per se nota, quae scilicet nesciri non possunt, confiteantur nosse. Tertius gradus nostrorum est qui sententiam non praecipitant in his quae sunt dubitabilia sapienti' (The Academician is in doubt, and he dares not lay down what is true in each and every case. But this sect is divided into three groups: (1) The adherents of the first group claim that they know nothing at all, and as a result of this extreme caution they have lost the right to be called philosophers. (2) The adherents of the second group accept as knowledge only things that are necessary and known *per se*, that is, things that one cannot fail to know. (3) The third kind comprises those of us who do not lay down an opinion in cases that are doubtful to the wise man).

¹⁷ See also Cicero, *Academica*, II.9.

¹⁸ John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, VIII, pp. 18–19, provides an edifying example of why this stance is the right one, according to John.

Elsewhere John singles out the first head of the sceptic Academy, Arcesilaus (whom John, like Cicero and Augustine, calls Arcesilas), for criticism of his extreme scepticism, and, in John's opinion, he is clearly the main figure of the first group.¹⁹ The second group apparently consists of thinkers who would only use the word 'knowledge' about demonstrative knowledge.

Certainly, there are obvious reasons why one would call thinkers committed to the first thesis sceptics, but the second one is troubling. Whether or not John does, in fact, have some specific thinkers in mind, it does not seem a truly sceptical position to claim that knowledge must fulfil certain very strict criteria. What John, not completely unreasonably, sees as scepticism is probably the total disregard of perceptual knowledge and obvious truths, and in this he agrees with Aristotle, among others.²⁰ The similarity between John's first two groups and a passage of Aristotle's *Posterior Analytics* is also interesting, but the relevant passages are hardly connected.²¹

The third group is the one to which both John himself²² and Cicero would claim to belong: one should not hold strong opinions about things on which the wise cannot agree. However, Cicero is clear, and John too, but less explicitly, that one may well examine and judge even the hardest philosophical issues; one must simply recognize that absolute certainty is not possible.²³ For instance, Cicero

¹⁹ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 727–34, 1137–38, pp. 153, 179. See also John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 95–99 (bk VII, chap. 2), but here no thinkers are mentioned by name.

²⁰ For a wonderful statement of Aristotle's view, see *Topica*, trans. by Boethius, I.11, 105a3–7, in Aristotle, *Topica*, ed. by Minio-Paluello, pt 1, p. 18: 'Non oportet autem omne problema nec omnem positionem considerare, sed quam dubitabit aliquis rationis indigentium et non poenae vel sensus; nam qui dubitant utrum oporteat deos vereri et parentes honorare vel non, poenae indigent, qui vero utrum nix alba vel non, sensus. Neque vero quorum propinqua est demonstratio, neque quorum valde longe; nam haec quidem non habent dubitationem, illa autem magis quam secundum exercitativam' (One should not examine every problem or every thesis, but only the thesis that needs rational argument, not punishment or perception, to resolve the puzzlement. For those who are puzzled by the question 'Should one honour the gods and love one's parents or not?' need punishment, and those who are puzzled by the question 'Is snow white or not?' need perception).

²¹ Aristotle, *APo.*, I.3, 72b5–73a20. See below 4.2.6 (passage no. xxix).

²² See the phrase 'Tertius gradus nostrorum est qui' (text and translation p. 87, n. 16 above), although the words may perhaps be taken in the weaker sense of indicating 'the third group of us Academicians consists of those who'. Still, John's position as belonging to the third group is easily established even without this evidence.

²³ On Cicero and his statements of positive doctrine, see also Powell, 'Introduction: Cicero's Philosophical Works', pp. 22–23. John's description of Antisthenes in John of Salisbury,

famously ends the *De natura deorum* by finding the general argument of the Stoic Balbus more plausible than the arguments of the Epicurean Velleius and the Academic sceptic Cotta;²⁴ and John has a long and critical discussion of *genera* and *species*. John in particular does not refrain from taking positions of his own, and in the process he also rebukes Roscelin, Abelard, and others.²⁵

Perhaps John's scepticism is then a little less strict than that of his model, Cicero,²⁶ but they certainly hold very similar views.²⁷ Cicero was 'converted' to Academic Scepticism by Philo of Larissa, who argued in favour of the value of 'probability'. However, Stoicism also influenced Cicero extensively in ways that it could not have influenced John. It has also been argued that John is a sceptic in a more Socratic sense than a Ciceronian one.²⁸ But even this may be too strong a claim; for Academic Scepticism was, after all, directly based on the negative dialectic of Plato's Socrates. For Cicero, Socrates was most of all 'the initiator of the Academics' dialectical methodology'.²⁹

John would say that some things admit of knowledge and discussion and some do not; and on the former one may debate the issues and make up one's own mind, while the latter can sometimes be accepted on faith or belief.³⁰ John may

Entheticus Maior, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 1139–58, pp. 179–81, also seems to make him a thinker who belongs to the third group.

²⁴ Cicero, *De natura deorum*, III.95, and compare Cicero, *Academica*, II.3.7.

²⁵ See John of Salisbury, *Metalogicon*, ed. by Hall, II.17, II.20, pp. 80–83, 85–100. In a comment on Olsen, 'L'humanisme de Jean de Salisbury', É. Jeuneau has noted that John does not really take sides (see Olsen, 'L'humanisme de Jean de Salisbury', p. 79), which is true, but it does not mean that he did not take his own position on the issues.

²⁶ Olsen, 'John of Salisbury's Humanism', p. 451, notes that John's scepticism is a 'relative novelty for his times'. This may go some way to explain inconsistencies, but scepticism, or at least a sceptical stance, was known around the middle of the century, for example, from the works of Adelard and Al-Ghazālī, although this is not to say, of course, that they were sceptics. See also Schmitt, *Cicero Scepticus*, pp. 36–38. Contra Nederman, 'Beyond Stoicism and Aristotelianism', pp. 178–82.

²⁷ Cicero, *De natura deorum*, I.1 and *Academica*, II.24.76–II.30.98, with comments by Nederman, 'Beyond Stoicism and Aristotelianism', pp. 177–78.

²⁸ Dotto, *Giovanni di Salisbury*, pp. 149–50 (with n. 29), 161–67, 180–81. See also Palazzo, 'Il valore filosofico', p. 96 (abstract), and Nederman, 'Beyond Stoicism and Aristotelianism', p. 183: 'In John's view, the moderate scepticism of the New Academy alone defends the liberty of inquiry that he evidently regards to be necessary to the quest for truth.'

²⁹ Long, 'Cicero's Plato and Aristotle', p. 44 with references. See, in particular, Cicero, *Academica*, I.4.16–17.

³⁰ See John of Salisbury, *Metalogicon*, ed. by Hall, III.10, p. 138: 'Sunt enim plura

have learned this from William of Conches.³¹ This means that the judgement of faith, perception, and reason should be accepted in clear cases; in fact, there is a point beyond which doubt and scepticism are no longer permitted.³² In all other cases, probability must be sufficient.³³ In addition, John also entertains the belief that scepticism is a necessary epistemological condition owing to the state of sin that man finds himself in.³⁴

John reserves harsh words for the extreme forms of scepticism. In fact, 'Academician' can apparently even be a term that denotes excessive use of logic without any connection with reality, and such people will always be confused and in doubt.³⁵ But Academic Scepticism as embodied in Cicero is not a perfect ideal either; Cicero too had his faults. John felt, as quite a few later writers have felt, that Cicero did not live in accordance with what he preached,³⁶ and John knows at least one rather doubtful story to substantiate his verdict.³⁷ But these were Cicero's personal faults, John says, restating Augustine's views.³⁸ The writings of Cicero exemplify perfectly the ideal transition from mistaken certainty to the Academic doubt in a number of matters in which no certainty is actually possible.

It seems to be a natural conclusion, then, that John is not a scholar who strives for extreme precision and indisputable conclusions in science, because he thinks that the really difficult parts of science are, and will forever remain, doubtful. He is a moderate sceptic, much inspired by Cicero, but he is not simply a follower. Thus, as Cicero himself did, John takes his philosophy from all relevant sources,

quae disputationem non admittunt, sunt quae humanas excedunt rationes et tantum fidei consecrantur' (There are many things that do not admit of discussion, the ones that transcend human reason/argument and are consecrated only to faith). See also John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 95–99, 114–17 (bk VII, chap. 1, bk VII, chap. 7).

³¹ Lemoine, 'L'humanisme de Guillaume de Conches', p. 62.

³² John of Salisbury, *Policraticus*, ed. by Webb, II, p. 122 and passim (bk VII, chap. 8).

³³ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 98–99 (bk VII, chap. 2), including examples of subjects that cannot be settled conclusively. On accepting probability in such cases, see John of Salisbury, *Metalogicon*, ed. by Hall, I, prologus, p. 11.

³⁴ John of Salisbury, *Metalogicon*, ed. by Hall, IV, 33, p. 170.

³⁵ See John of Salisbury, *Metalogicon*, ed. by Hall, II, 7, pp. 66–67.

³⁶ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 1215–56, pp. 185–87. There are similar statements concerning Aristotle: John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 851–74, pp. 161–63.

³⁷ See John of Salisbury, *Policraticus*, ed. by Webb, I, pp. 346–47 (bk V, chap. 15).

³⁸ Augustine, *Confessionum*, ed. by Verheijen, III, 4.7, pp. 29–30.

including contemporary ones. For instance, he classifies the possibilities of knowledge as follows:

Divine perfection is to know all things completely, angelic perfection is to avoid errors in all cases, and human perfection is to have a good perception of most things.³⁹

This may not be *against* Cicero, but it is certainly another kind of scepticism, viz., one based partly on Christian theology. Such a divine superstructure provides John with the possibility of a more optimistic view than pure scepticism, but it may be noted that a similar position, *mutatis mutandis*, is not foreign to Cicero.⁴⁰ Furthermore, the Arabic *Liber introductorius* also relates divine, angelic, and human perfections to the different stages of knowledge.⁴¹ William of Conches, in a similar vein, attributes different 'conditions of existence' (*conditiones existendi*) to angels, human beings, and other animals.⁴² Lactantius and Augustine were, of course, the basic influences on Christian scepticism.

John's general views on the possibilities of knowledge reveal a picture of a practical and eclectic thinker whose views are usually put forward not as universal truths but, rather, as solutions to immediate problems facing him. Therefore, it is also to be expected that John will not always be consistent in his terminology, and sometimes it looks as though he makes contradictory claims about such central topics as nature, logic, art, and more. It often turns out, however, that John knows what he is doing. All of these claims will be tested below, as the different parts of John's views on science are examined. In particular, it is interesting to see how a man of John's education and natural talents responds to the Aristotelian theories.⁴³

³⁹ John of Salisbury, *Metalogicon*, ed. by Hall, III.3, p. 110: 'Omnia namque ad plenum nosse divina, in nullo labi angelica, in plurimis bene sentire humana perfectio est.'

⁴⁰ Cicero, *Topica*, § 77, on 'divine testimonies' (*divina testimonia*), including the statements of oracles, the world as manifestly containing evidence of the divine, and other divine sources.

⁴¹ *Liber introductorius*, ed. by Nagy, v, pp. 61–62.

⁴² Guillaume de Conches, *Glosae super Platonem*, ed. by Jeaneau, xxxv, p. 67.

⁴³ It may also be noted that he may have learned from at least one of his teachers, namely, Thierry of Chartres, that, in important areas of thought, Cicero and Aristotle did not agree: Thierry of Chartres, *Commentarius super De invention*, 1.1.1, in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg, p. 56. See also Fredborg, 'Rhetoric and Dialectic', pp. 171, 175.

4.2. Aristotelian Science in the *Metalogicon*

4.2.1. Introductory Remarks

This brings us to the central part of this book: John's theory of science which is based, in particular, on Aristotle's writings. It is clear from the preceding part of this book that John's views on the subject were, to some extent, eclectic. John is himself well aware that he uses several different theories of knowledge/science to form a single theory, and he believes that the *Organon* is structured to support such a process. Thus, John claims that the *Categories* is *elementarius*, which term indicates both 'elementary' and 'the letters' of science;⁴⁴ the *De interpretatione* is *syllabicus* ('syllabic') or 'has moved from the stage of mere letters to that of syllables';⁴⁵ and the *Topics* is *dictionalis* ('on the level of words').⁴⁶ This imagery is easily understood as a progression from the basic elements to the more advanced subjects based on these elements. But this is not apposite from an Aristotelian point of view, and John himself seems to confuse imagery and reality in one passage. If the progression was maintained, *dictionalis* should refer to 'word'-level, but then the following remarks on the *De interpretatione* and the *Topics* are unfortunate, since John here begins to explain the differences between these two texts as differences in treatment of *propositions*.⁴⁷

⁴⁴ John of Salisbury, *Metalogicon*, ed. by Hall, III.2, p. 105.

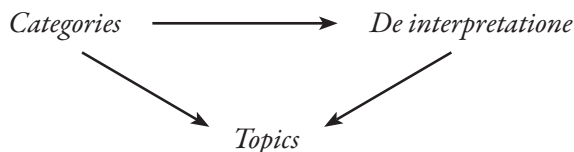
⁴⁵ John of Salisbury, *Metalogicon*, ed. by Hall, III.4, p. 115.

⁴⁶ John of Salisbury, *Metalogicon*, ed. by Hall, III.6, pp. 121–22. In John of Salisbury, *Metalogicon*, ed. by Hall, III.10, pp. 130–31, John further divides the *Topics* in two: books I–VII = *dictionalis*, book VIII = *constructorius rationum*. This indicates that *dictionalis* refers to words rather than statements, which is confirmed by other authors who says that *orationes* are composed of *dictiones*: Peter Abelard, *Dialectica*, ed. by De Rijk, I.vol.3.1, pp. 114–15; Hugh of St Victor, *De grammatica*, ed. by Baron, p. 76; Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 36–38. For references to other authoritative passages, see the *apparatus fontium* in Hall's (or Webb's) edition. See also Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, II.29, p. 45: 'Grammatica dividitur in litteram, syllabam, dictionem et orationem' (Grammar is divided into letter, syllable, word and statement), and Hunt, 'The Introductions to the *Artes*', pp. 89–90, for more examples. The origin of the distinctions is Priscian, *Institutionum grammaticarum*, ed. by Hertz, p. 3, for the introductory description, et passim. Boethius, *De divisione*, ed. and trans. by Magee, p. 40, may well have been John's source of inspiration. See also Magee's note: Boethius, *De divisione*, ed. and trans. by Magee, p. 148.

⁴⁷ John of Salisbury, *Metalogicon*, ed. by Hall, III.6, pp. 121–22: 'Sicut autem elementarius est Praedicamentorum, Periermeniarum vero syllabicus, ita et Topicorum liber quodam modo dictionalis est. Licet enim Periermeniis agatur de simplici enuntiatione, quae utique veri falsive dictio est, nondum tamen ad vim colligendi pertingit, nec illud assequitur in quo dialectices

In any case, John does describe the coherence of the *Organon* and the proper places of the individual treatises in a larger plan of scholarly and scientific studies using imagery:⁴⁸ from letters (*Categories*) to syllables (*De interpretatione*) to words or statements (*Topics*). The *Categories* and the *De interpretatione* (along with Porphyry's *Isagoge*, which did not find a place in the metaphorical description), must be mastered if one is to proceed to scholarly and scientific work — or alternatively their *contents* must be mastered, for instance, by using other and easier works.

However, the really interesting thing about this description is not the imagery itself. It is much more important that John does not include the rest of the *Organon*: the *Prior* and *Posterior Analytics* and the *Sophistici elenchi* are missing. If one can draw any conclusions from this, it seems to indicate that John views the right progress of scholarly and scientific studies and education as a closed system that can be illustrated as follows:



Thus, mastery of the two elementary, but basic, works (*Categories* and *De interpretatione*) enables the student to advance to learn science proper from the *Topics*. But this cannot be the whole truth; for the *Metalogicon* is one long argument in favour of the *entire Organon*, not just these three works. Perhaps one should just note that these are the three works that are treated in book III of the *Metalogicon*, and this is the reason why the metaphorical description is limited to this book. However, as we shall see, the *Topics* is John's favourite Aristotelian work, and it is not likely to be completely coincidental that this is the one he ends up with. I shall return to the individual status and functions of the different Aristotelian treatises in the sections on probabilistic and demonstrative science below. At this point, I merely note the curious description and its potentially important consequences.

praecipua opera versatur' (Just as the book on *Categories* is 'letters' and *De interpretatione* 'syllables', so the *Topics* is in a sense 'dictional'. For even though the *De interpretatione* treats of the simple proposition, that is, the statement of true or false, and yet does not go as far as to treat of the force of inference, it does not pursue the subjects in which dialectic does its particular work).

⁴⁸ Apparently, the order in which one studied particular texts was a very important topic for discussion in the twelfth century. See Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttimer, praefatio, pp. 1–3.

4.2.2. The Nature of Knowledge/Science (1): John and the Cornificians

The nature of knowledge (*scientia*) is a difficult subject for any thinker, and John of Salisbury is no exception. Being an eclectic, he can operate with a rather fluent conception of knowledge and science, but there are some views that he could never accept. The *Metalogicon* is spurred on by a theory of teaching and knowledge that he finds disastrous, namely, that of Cornificius and his followers, the Cornificians.⁴⁹

In accordance with many philosophical and religious authorities from antiquity as well as the Middle Ages, John believes that man is by nature hampered by having been placed in earthly matter with desires and other distractions. At the same time, man is also naturally elevated above all other living beings on earth by the faculties of reason (*ratio*) and speech (*eloquium*). By these abilities man has been given the means to attain a kind of happiness and knowledge that is not possible for other beings.⁵⁰ As shown by the quotation above,⁵¹ this means that human beings are barred from full knowledge; at least they cannot obtain it by their own powers and faculties. But it is also clear that man can *improve* his knowledge, powers, faculties, virtues, etc. by proper *training*. Nature has provided every human being with the means to develop to higher stages of knowledge and virtue.⁵² And even though it is possible to progress through reason and speech alone, the arts (*artes*) have been invented to expedite the process and enhance its precision.⁵³

⁴⁹ On Cornificius, see Appendix 1 below.

⁵⁰ John of Salisbury, *Metalogicon*, ed. by Hall, I.1, p. 12: 'Omnibus autem recte sapientibus indubium est quod Natura, clementissima parens omnium et dispositissima moderatrix, inter cetera quae genuit animantia, hominem privilegio rationis extulit, et usu eloquii insignivit, id agens sedulitate officiosa et lege dispositissima, ut homo qui gravedine faeculentioris naturae et molis corporeae tarditate premebatur et trahebatur ad ima, his quasi subvectus alis ad alta conscendat' (All truly wise men agree that Nature, the mildest mother and superior arranger of all things, has, over all the other living beings that she has born, elevated man by giving him the privilege of reason, and has distinguished him by the use of speech, thereby effecting with her careful attention and superior law that man, who is oppressed and dragged down by the weight of his earthly nature and by the slowness of his physical body, is so to speak born upwards on these wings and rises to higher things). See also John of Salisbury, *Metalogicon*, ed. by Hall, I.7, p. 24.

⁵¹ See the previous note.

⁵² See also John of Salisbury, *Metalogicon*, ed. by Hall, I.1, I.7–9, I.11, pp. 12–14, 23–28, 29–31.

⁵³ In John of Salisbury, *Metalogicon*, ed. by Hall, I.1, p. 12, John says that nature has given the arts (or simply logic) to man, but this must be taken as exaggerated, and somewhat careless, praise of nature. For the arts are later inventions made by reason, whereas Nature has simply

According to John, this is all disputed by Cornificius and his followers. They claim that the arts are *not* needed; in fact, it is a waste of time to study them.⁵⁴ Natural eloquence and the accompanying ability to convince others are all that really matters, and if a discussion can be won by sarcasm, laughter, and *ad hominem* arguments, it proves the wisdom of the winner. The use of reason in an argument should actually be avoided because it involves the two parties in a more transparent and direct man-to-man combat in which rhetoric will be less efficient.⁵⁵ According to John, the Cornificians are generally sluggish and lazy, and instead of spending their time studying in order to *be* wise, they will rather *seem* wise.⁵⁶ And this is exactly the result of Cornificius's teaching: his pupils do not have to study the arts, or the authorities from antiquity; in fact they *should* not study any, but practice and cheap tricks are sufficient, and empty words the result.⁵⁷ Thus, Cornificius is not actually eloquent but rather verbose; his speech lacks proper sense, and he continually tosses his words out in the air to be carried away by the winds, nonsense as they are.⁵⁸ This was the kind of education that Cornificius himself received, and he passes on the same education to his followers. As a result, all Cornificians despise the liberal arts as collections of useless and bothersome disciplines not worth the time of study.⁵⁹

This description needs qualification. For at first sight, there would seem to be a glaring contradiction in John's conception of eloquence (*eloquentia*). On the one hand, he criticizes the Cornificians for their praise of natural ability to speak well against an opponent while at the same time he also praises eloquence on several occasions.⁶⁰ The explanation seems to be that John gives several meanings to the

provided the necessary preconditions: John of Salisbury, *Metalogicon*, ed. by Hall, 1.9, 1.11, pp. 27–28 (on *eloquentia*), 29–31 (generally on *ars*).

⁵⁴ John of Salisbury, *Metalogicon*, ed. by Hall, 1.1, 1.3, 1.5–6, 1.9, pp. 13, 15–17, 20–23, 27–28.

⁵⁵ John of Salisbury, *Metalogicon*, ed. by Hall, 1.1, 1.3, pp. 13, 15–16.

⁵⁶ See John of Salisbury, *Metalogicon*, ed. by Hall, 1.1–6, pp. 12–23. See also John of Salisbury, *Policraticus*, ed. by Webb, II, p. 136 (bk VII, chap. 12). Compare Aristotle, *Sophistici elenchi*, I, 165a19–24, and, for another twelfth-century work, Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, praefatio, pp. 1–3.

⁵⁷ John of Salisbury, *Metalogicon*, ed. by Hall, 1.2, p. 15.

⁵⁸ John of Salisbury, *Metalogicon*, ed. by Hall, 1.3, p. 15: 'Siquidem non facundus est sed verborum, et sine fructu sensuum, verborum folia in ventum continue profert.' Compare Thierry of Chartres, *Commentarius super De inventione*, prologus partis primae, in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg, p. 49.

⁵⁹ John of Salisbury, *Metalogicon*, ed. by Hall, 1.3–4, pp. 15–20.

⁶⁰ See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, 1.7, pp. 23–25. On

term, some of them very different from the Cornifician. He certainly uses the term as meaning 'rhetoric', in accordance with passages in Cicero and Quintilian,⁶¹ but sometimes he conceives *eloquentia* in the sense given to it by William of Conches and Thierry of Chartres, that is, as a discipline comprising the entire *trivium*.⁶² The origins of this view are Cicero, Quintilian, and Martianus Capella.⁶³ John further states that eloquence without reason (*ratio*) is both random (*temeraria*), blind (*caeca*), and useless (*non prodesse*), and in this too he follows his former teachers.⁶⁴ This is all in accordance with the regular practice of his day. The precise bonds between eloquence and wisdom, and whether they were two related concepts or simply identical, could be discussed, but John would hardly have confused other twelfth-century scholars with his broad use of *eloquentia*.

If there ever was a group of Cornificians in the twelfth century, it is hard to believe that John is portraying them fairly. In fact, the Cornificians' theory of science would either be an extreme form of scepticism, if indeed they cared about knowledge at all, and not simply about winning the argument, or a much simplified version of current theories.⁶⁵ Throughout his descriptions, John clearly implies that the Cornificians do not actually care about knowledge,⁶⁶ and if this implication is correct, they cannot be said to have a theory of science or knowledge at all. It was simply a theory of how to win an argument. This is not in itself a bad

eloquence in John's work, see also Dal Pra, *Giovanni di Salisbury*, pp. 35–38.

⁶¹ Cicero, *De inventione*, I.1.1; Quintilian, *Institutio oratoria*, passim.

⁶² Guillaume de Conches, *Glosae super Boetium*, ed. by Nauta, I pr. 1, p. 29: 'Eloquentiae tres sunt partes: grammatica, rhetorica, dialectica' (Eloquence has three parts: grammar, rhetoric and dialectic), in a passage in which eloquence is coupled with wisdom as the two concepts that comprise all knowledge; Guillaume de Conches, *Glosae super Platonem*, ed. by Jeaneau, v, p. 11 with apparatus. See also Anonymus, *Logica 'Cum sit nostra'*, in De Rijk, *Logica Modernorum*, II.1, p. 418: *Trivium est eloquentia*; 'Die Metamorphose des Golias', ed. by Huygens, verses 89–92, p. 768; Godefroy de Saint-Victor, *Fons philosophiae*, ed. by Michaud-Quantin, verses 65–96, pp. 37–38. On Abelard, see McLaughlin, 'Abelard's Conceptions', p. 526. For the combination of eloquence and wisdom in John's work, see, for example, John of Salisbury, *Metalogicon*, ed. by Hall, I.1, pp. 12–14. Hunt, 'The Introductions to the *Artes*', pp. 91–92 and n. 1, examines the history of the *eloquentia-sapientia* couple.

⁶³ For example, Cicero, *De inventione*, I.1.1; Cicero, *De oratore*, I.8.33–34; and passim in Quintilian and Martianus Capella.

⁶⁴ John of Salisbury, *Metalogicon*, ed. by Hall, I.1, II.9, pp. 13, 69. In the latter passage, John makes clear that it is a common view. For his teachers, see, for example, Guillaume de Conches, *Philosophia mundi*, ed. by Maurach, prooemium, p. 8, citing Cicero.

⁶⁵ See Appendix 1 below.

⁶⁶ John of Salisbury, *Metalogicon*, ed. by Hall, I.2–4, I.6, pp. 14–20, 22–23.

thing; the schools of the twelfth and thirteenth centuries were much occupied with philosophical discussions of various kinds, and they were part of the regular curriculum. The problem is that Cornificius uses the argumentative strategies *only* to gain victory, never knowledge, and thus the Cornifician theory actually leads students away from studies.⁶⁷ This exemplifies John's view on Cornificius and his followers.

John's response is to write the four books of the *Metalogicon* in which he explains how and why the *trivium*, in particular, and the *quadrivium* are valuable, and why the Aristotelian *Organon*, despite the fact that its texts are very difficult, should be used as the tool to unravel the secrets of the seven liberal arts. For whether or not Cornificius actually represents a case of extreme scepticism, the result of his teaching and views is that no knowledge will ever be available. John is certain that such a view cannot be right. Being a moderate sceptic, he agrees that we can never, or very rarely, know anything with absolute certainty, but most often we can present good arguments in favour of some view and thereby make it more probable than other views. However, in order to do this one needs a solid foundation, that is, one needs not only the ability to reason and argue but also to have studied the relevant basic texts thoroughly. Porphyry's *Isagoge* and Aristotle's *Categories* and *De interpretatione* will lay the foundation;⁶⁸ the *Prior Analytics* and the *Sophistici elenchi*,⁶⁹ supplemented by some works by Cicero and Boethius in particular, provide the student with advanced techniques, that is, tools, of study; and finally, the *Topics* and the *Posterior Analytics* describe the scientific procedures proper. In order to determine John's views on Aristotelian science, what we need to do now is to examine his treatments of the latter two texts.

⁶⁷ Compare Plato's *Euthydemus* for a parody of a procedure similar to the Cornifician one.

⁶⁸ See John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 118: 'Artis praeparatoria praecesserunt, ad quam suus opifex et quasi legis lator, rudem omnino tironem, irreverenter et, ut dici solet, illotis manibus non censuit admittendum' (Until now [*scil.* having treated the *Isagoge*, *Categories*, and *De interpretatione*] we have treated the introductory elements of the art [*scil.* logic], to which its maker and its legislator [*scil.* Aristotle], so to speak, did not think that one should be admitted as a complete novice, without reverence and, as the saying goes, with unwashed hands).

⁶⁹ Even though John states in one passage (John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119) that logic in a broad sense is defined primarily by knowledge, not only of dialectic and demonstration, but also of refutations (*elenchi*) and analytics in general (that is, including the theory of formal deduction in the *Prior Analytics*), it is clear from John's later descriptions of these subjects that they are conceived of primarily as tools to help proper investigations: John of Salisbury, *Metalogicon*, ed. by Hall, IV.1–5, IV.22–23, pp. 140–44, 159–62.

4.2.3. The Nature of Knowledge/Science (2): Probabilism

Cicero had stated that a ‘mere human being’ (*homunculus*) should be ‘striving for the probables’ (*probabilia sequens*).⁷⁰ He also wrote a *Topics*, and Boethius provided a magnificent tool for probabilistic work in his *De topicis differentiis*, in particular, and in the *De divisione*. In the former he recognized a difference between the Aristotelian and the Ciceronian *Topics*, and claimed to pay attention to both.⁷¹ Thus, the twelfth century was well served concerning probabilism, but there was room for more.

The *Topics* is a text that fits Academic Scepticism, John thinks,⁷² and it is therefore his natural favourite among the Aristotelian treatises.⁷³ Furthermore, in accordance with a Platonic and, in particular, a Stoic tradition,⁷⁴ dialectic is the most prominent method of science in the works of Cicero and Boethius, whereas demonstration plays almost no part. Even though Abelard does not refer to Aristotle’s *Topics* in his *Dialectica*, he did perhaps know a little about it,⁷⁵ and it would also to some extent have suited him.⁷⁶ In any case, John’s favourite teacher in logic would have provided him with a favourable impression of the subject of the *Topics*. The same should be true for some of his other teachers, not least Alberic and Robert of Melun, who seem to have taught John much about matters of dialectic, despite John’s reluctance to appreciate them.⁷⁷

⁷⁰ For example, Cicero, *Tusculanae disputationes*, I.9.

⁷¹ Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, p. 2.

⁷² See, for example, John of Salisbury, *Policraticus*, ed. by Webb, II, p. 114 (bk VII, chap. 6): ‘Unde et Academicorum antiquissima regula est ut quisque quod sibi occurrit probabile suo iure defendat’ (It is a very old rule among the Academicians that each person by his own right defends what seems probable to him).

⁷³ Dal Pra, *Giovanni di Salisbury*, pp. 64–93, is an elaborate discussion of probabilism, but there is no extensive treatment of the *Topics*.

⁷⁴ Diogenes Laertius, *Vitae philosophorum*, VII.83: ‘καὶ τοιοῦτοι μὲν ἐν τοῖς λογικοῖς οἱ Στωικοί, ἵνα μάλιστα κρατύνωσι διαλεκτικὸν μόνον εἶναι τὸν σοφόν’ (The Stoics have developed this logic [that is, the kind that Diogenes has just described] in order to give as much strength as possible to their claim that the wise man alone is a dialectician).

⁷⁵ See Minio-Paluello, ‘The “Ars disserendi” of Adam of Balsham’, p. 136, n. 1 with a reference to Geyer’s work.

⁷⁶ See, for example, Peter Abelard, *Theologia ‘Summi boni’*, ed. by Buytaert and Mews, II.25–27, pp. 122–23, on the use of teaching what is ‘plausible’ (*verisimile*) rather than the truth (*veritas*) in theology.

⁷⁷ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 71.

In the *Topics*, Aristotle described dialectic. In the Aristotelian sense, this signifies not simply 'logic', but rather a particular kind of logical argument or procedure, namely, the procedure that takes its point of departure from probable and generally acceptable premises. Thus, in the dialectical procedure it is not demanded that the premises are necessarily true and indemonstrable, as they must be in the demonstrative procedure. The dialectician must, however, make sure that his opponent in the debate accepts any premise that he proposes. In a dialectical research process where no opponent is actually present, the researcher must take care only to lay down premises that an actual opponent *would* accept. Thus, in dialectic everything depends on the abilities of the person(s) involved in the process.⁷⁸

John's analysis of the *Topics* takes up most of book III of the *Metalogicon*,⁷⁹ and he explicitly declares that this is the most important treatise. It contributes to both 'discovery' and 'judgement', and it is relevant not just for the dialectician, as Boethius says,⁸⁰ but also for those who use demonstration and sophistic arguments.⁸¹

The eight books of the *Topics*, John says, are eminently well structured so that each book brings new, coherent, and clear thoughts to the discussion of the previous ones. His high opinion of this Aristotelian treatise is brought out in his first specific remarks on the text itself:

The *Topics* comprises eight books, and each book brings more coherence and force to the subject than the preceding ones. The first gives a rough outline, so to speak, of the subject matter of the other books, and establishes some fundamentals of logic as a whole. For it teaches what a deduction is; what a demonstration is, and from which sources it is established; what the principles of the arts are, and the principles of the faith that we gain from the arts; what the dialectical deduction is, and the contentious.⁸²

⁷⁸ For the procedures of dialectic, according to Aristotle, see, in particular, *Topica*, I and VIII. In books II–VII, Aristotle treats different types of *loci* and arguments.

⁷⁹ John of Salisbury, *Metalogicon*, ed. by Hall, III.5–10, pp. 118–39.

⁸⁰ Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, pp. 18–20.

⁸¹ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119.

⁸² John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 120: 'Octo quidem voluminibus clauditur, funtque semper novissima eius potiora prioribus. Primus autem quasi materiam praeiacit omnium reliquorum, et totius logicae quaedam constituit fundamenta. Docet enim quid syllogismus, quid et ex quibus demonstratio, quae principia artium et fidei quae ab artibus est, quis syllogismus dialecticus, quis litigiosus.'

And these are just the general subjects. A number of other points are treated as well, according to John. But this brief summary is misleading. Aristotle does not in this treatise teach or describe to us what a deduction is; this is the subject of the *Prior Analytics*, and other scholars of the twelfth century knew this.⁸³ Nor does he teach or describe the demonstrative procedure in any detail; for that is what he does in the *Posterior Analytics*. In the first book of the *Topics*, he just provides simple summaries, or rather one-line descriptions of the real argument in the other works; he himself says more than once that he is merely sketching the subjects.⁸⁴ For instance, when John says that Aristotle shows us ‘what a deduction is’ and ‘what a demonstration is, and from which sources it is established’, he gives the immediate impression of thorough descriptions and analyses of the subjects. As a matter of fact, he is referring to a passage right at the beginning of the *Topics*:

A deduction is an argument in which certain things are supposed, and something else, different from the supposed things, results of necessity from the things that are supposed. Demonstration is when the deduction is made from true and primary premises, or from such premises that have, by the use of some primary and true premises, obtained the principle [*scil.* starting-point] of our cognition of them.⁸⁵

There are no analyses here, nor even a proper description, despite the impression of such that one may easily take from John’s description. At the same time, the entire *Prior Analytics* is taken up by a thorough analysis of formal deduction in its various kinds; the description from the *Topics* just quoted is merely a preliminary demarcation found at the beginning of the treatise. In fact, if one were to make such a claim for a book on *Topics*, Boethius’s *De topicis differentiis* would be a better match than Aristotle’s *Topics*.

Similarly, concerning demonstration and its premises, the *Posterior Analytics* has a much more thorough analysis and demarcation in one of the first chapters,⁸⁶ and much of the remaining part of the work is concerned with demonstration, demonstrative procedures, and conditions for the premises of demonstration. Formal deduction and demonstration are just two examples of John’s exaggerated

⁸³ So, for example, Anonymus Aurelianus III in Orléans BM, MS 283, p. 178a.

⁸⁴ Aristotle, *Topica*, I.1, 101a18–24.

⁸⁵ Aristotle, *Topica*, trans. by Boethius, I.1, 100a25–29, in Aristotle, *Topica*, ed. by Minio-Paluello, pt 1, p. 5: ‘Est igitur syllogismus oratio in qua positus quibusdam aliquid aliud a positis ex necessitate accidit per ea quae posita sunt. Demonstratio ergo est quando ex veris et primis syllogismus erit, aut ex talibus quae per aliqua prima et vera eius quae circa ipsa est cognitionis principium sumpserint.’

⁸⁶ Aristotle, *APo.*, I.2, 71b9–72b4.

descriptions of the *Topics*;⁸⁷ the same is true for all the other elements that are not specifically concerned with dialectic and dialectical procedures.

John of Salisbury was basically not an original thinker in the theoretical disciplines, and therefore it would be surprising, I think, if these somewhat extreme views originated from him.⁸⁸ The most probable source that I have found for these views is, however, somewhat surprising. Manlius Boethius's translation of the *Topics* dominated throughout the Middle Ages; no other translation had great influence. However, another one was made in the twelfth century, the complete text of which is no longer extant in a single manuscript, but the better part of it is found in one, and fragmentary evidence is found in a few others.⁸⁹ The translator has written a preface (prologue) in which he praises the *Topics* as an extremely important work and says among other things:

The intention and the utility of the *Topics* are succinctly and clearly found in the individual books. Book I contains descriptions of (1) what a deduction is, (2) the demonstrative, the dialectical and the sophistic, (3) what is the utility of the *Topics*, (4) division and difference between propositions and questions, (5) what a definition is, (6) what a property is, (7) what a genus is, (8) and what an accident is, (9) how often 'same' is used, (10) what a dialectical proposition is, (11) what a dialectical question is, (12) what a thesis is, (13) and what induction is, (14) and by which means a deduction is constructed, (15) and the utility of these.⁹⁰

No fewer than fifteen important benefits accrue from book I of the *Topics* alone, and the author goes on to enumerate the advantages of the following seven books.

⁸⁷ In fact, John's claim would be truer concerning Boethius's work: Boethius, *De topicis differentiis*, ed. by Nikitas, 1.1–7, pp. 1–20.

⁸⁸ This is not to say that John was not original in his *exposition* and *arrangement* of the thoughts of others — perhaps most clearly seen in his combination of theoretical and practical knowledge, see Dotto, *Giovanni di Salisbury*, pp. 141–42. See in particular his prologues to the books of the *Metalogicon*, and note especially John of Salisbury, *Metalogicon*, ed. by Hall, III. prologus, p. 102: 'Et quia propriis non abundo, amicorum omnium iaculis indifferenter utor' (And because I am not well equipped with my own, I use those weapons [that is, to fight the Cornificians] that belong to all my friends without distinction). See also my remarks above in 1.2.

⁸⁹ See Aristotle, *Topica*, ed. by Minio-Paluello, pp. xlii–il, on this translation.

⁹⁰ Anonymus, *Prooemium in Topica Aristotelis Philosophi*, in Aristotle, *Topica*, ed. by Minio-Paluello, pp. xlii–xlili: 'Sed iam intentio sive utilitas Topicorum per singulos libros succincte aperitur. Primus igitur liber continet quid syllogismus et quid demonstrativus et quid dialecticus et quid sophisticus, et quae utilitas Topicorum, et divisionem et differentiam propositionis et quaestionis, et quid definitio et quid proprium et quid genus et quid accidens, et quotiens dicitur idem, et quid dialectica propositio, quid quaestio dialectica, quid thesis, quidque inductio, et quae instrumenta syllogismi, et quae utilitas eorum.'

Of course, it is not surprising that a scholar wants to stress the importance of the work of which he has just produced a translation. Even so, a translator of the *Topics* should know that deduction as such is analysed in, and best learned from, the *Prior Analytics*. As we have already seen above, the relevant passages from the *Topics* are not impressive. The claim seems especially strange in a scholarly environment much occupied with precise logic, as the best twelfth-century Parisian schools were. Furthermore, the claim that philosophers should reserve a special place for the *Topics* is also surprising,⁹¹ not least given John of Salisbury's testimony that the *Topics* had been neglected or even ridiculed until recently.⁹² It would seem that the anonymous translator and John are outsiders in their immense respect and admiration for the *Topics*, and in their exaggerated, almost identical statements about the content of the treatise. It seems very probable that John knew the translation, or at least knew the contents of the preface through another source, although it should, of course, be noted that there are no literal quotations in the *Metalogicon*. In passing we may note that John is, then, apparently a privileged witness to a rare, anonymous translation that would quickly fall into oblivion, which is interesting, since this would not be the only example of John being in such a position.⁹³ It seems that there is only one more reference to this translation in the entire medieval tradition, namely, in Adenulph of Anagni's commentary on the *Topics* from about 1250.⁹⁴

The conclusion is that John greatly exaggerates the contents of the *Topics*; perhaps one might even say that he misleads his reader, but he does so because of his admiration for the treatise, and as the result of his reading of the prologue to the anonymous translation of the *Topics* (or a very similar text), not in order actually to deceive. Still, based on these passages one might reasonably suspect that John has a (positively) distorted view of the whole treatise; it simply fitted his general views better than did any other Aristotelian text. Consequently, it is not surprising that John's descriptions of the dialectical parts of the *Topics* are much more acceptable. His summary of *Topics* 1.1 is certainly sketchy, and not much analysis is found, but he provides the reader with the essential features of the text.⁹⁵ In particular, he is clearly interested in the predicables, and he has

⁹¹ Anonymus, *Prooemium in Topica Aristotelis Philosophi*, in Aristotle, *Topica*, ed. by Minio-Paluello, p. xlii: 'Quoniam maxima sit Topicorum Aristotelis in omnibus praerogativa.'

⁹² John of Salisbury, *Metalogicon*, ed. by Hall, III.5–6; IV.24, pp. 118–23, 162.

⁹³ See above 2.1.2 and below 4.2.4–4.2.7.

⁹⁴ Green-Pedersen, *The Tradition of the Topics*, pp. 92, 387.

⁹⁵ For John's description of *Topica*, 1.1, see John of Salisbury, *Metalogicon*, ed. by Hall, III.5, pp. 119–21.

only harsh words for commentators and the commentaries on the *Isagoge* and the *Categories* (in which this subject was generally treated) for being much more unclear than Aristotle himself is in the *Topics*.⁹⁶ One might, however, suspect that John is simply repeating the views of others, but this I have not been able to determine, and until such evidence is brought forward, he should be given the benefit of the doubt.

In the major part of *Metalogicon*, book III, John reviews all eight books of the *Topics*, and even though much is perfunctory and summarily stated, it seems clear that he had read, appreciated, and generally understood at least most of the work.⁹⁷ As described above, he begins with a brief account of the first chapter of the *Topics*,⁹⁸ and some of the general conclusions are repeated in the next chapter of the *Metalogicon*, a chapter which is meant to cover the first three books of the *Topics* — the introduction (book I) and the books on ‘accident’ (books II–III).⁹⁹ The analyses are brief, but this is at least partly explained by the general nature of books II–VII of the *Topics*, which admittedly do not lend themselves easily to a comprehensive summary. In addition, John is sidetracked by a discussion of additions to the Aristotelian theories made by his contemporaries.¹⁰⁰ Abelard is mentioned as a scholar who has contributed just as much on the concept of ‘inference’ as Themistius, Cicero, Apuleius, and Boethius, but then John immediately goes on to criticize Abelard’s views on hypothetical statements and inferences. This does not seem relevant in the context of *Topics* I–III,¹⁰¹ and in any case it makes the summary of book II somewhat strange reading.

⁹⁶ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, pp. 120–21: ‘Proinde quid genus aut definitio, quid accidens sit aut proprium, docet longe commodius his, qui in Porphyrio aut Categoriis explanandis singuli volumina multa et magna conscribunt. ‘In consilium illorum non veniat anima mea’, nec aliquis amicorum meorum praeceptoribus his utatur’ (Also, what genus and definition are, and what accidens and property are, he [*scil.* Aristotle] teaches us much better than those who individually writes many and long commentaries on Porphyry [*scil.* the *Isagoge*] and the *Categories*. ‘Let not my soul come into the council of these’ [Genesis 49. 6], and let no one of my friends use these as teachers). But in John of Salisbury, *Metalogicon*, ed. by Hall, III.6, p. 122, he explains that moderns, too, contribute positively to the subjects found in the *Topics*. For the rather negative view on commentators, see Guillaume de Conches, *Glosae super Platonem*, ed. by Jauneau, I, p. 5.

⁹⁷ John of Salisbury, *Metalogicon*, ed. by Hall, III.5–10, pp. 118–39.

⁹⁸ See John of Salisbury, *Metalogicon*, ed. by Hall, III.5, pp. 119–21.

⁹⁹ John’s description and analyses of *Topica*, I–III: see John of Salisbury, *Metalogicon*, ed. by Hall, III.6, pp. 121–23.

¹⁰⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.6, pp. 122–23.

¹⁰¹ Dal Pra, *Giovanni di Salisbury*, p. 74, points out that John’s intention may well be to

More important for his interpretation of the *Topics* is John's interest in the fact that the understanding of accidents and the methods of dealing with them are a necessary part of mastering both natural science and ethics:

Since only 'accident' admits of comparison, the third book [*scil.* of the *Topics*] explains the power inherent in 'comparables' [*scil.* the value of understanding what may and may not be done in comparisons]. Pursuing the nature of accidents, it shows by general rules the reasons for choosing and avoiding, and among the things to be chosen, it shows which should be preferred over the others, and among the things to be avoided it shows which should be avoided more than the others. Consequently, it is evident how much this discipline benefits studies of natural science and ethics; for this part of the discipline is very effective in instances where one has to choose and avoid, and generally in every situation where comparison must be made. Clearly this book [*scil.* the *Topics*] has much to commend it, and earlier scholars were wrong to neglect it, as it is of outstanding utility, written in a pleasant style and extremely beneficial in the study of both ethics and natural science.¹⁰²

John understandably, and justifiably, regards the skills here mentioned as generally important in scientific and scholarly pursuits, and he is convinced that the fact that they must be learned from the *Topics* lends clear support to his general views. It is also important to him that they are necessary primarily for *practical* purposes, not so much for purely theoretical reasons. Although natural science is a theoretical discipline, it is, of course, concerned with external and tangible objects, not least in medicine. And ethics is the most important of the well-known practical disciplines of knowledge; in fact, it is the most important of *all* the sciences.¹⁰³ John seems to have learned this in Paris (or Chartres), perhaps most likely from his teachers in grammar, but Abelard is another possibility, although the latter was his teacher primarily in logic.¹⁰⁴ Perhaps no text of the

defend probabilism in this part of logic as well.

¹⁰² John of Salisbury, *Metalogicon*, ed. by Hall, III.6, p. 123: 'Et quia solum accidens ad comparisonem venit, tertius comparabilium vim aperit, et insistens naturae accidentium, quae sit eligendi aut fugiendi ratio, et in ipsis eligendis quae praeeligenda, et in fugiendis quae prae ceteris fugienda, regulariter monstrat. Ex quo liquet quantum haec disciplina physicae et ethicae prodest, cum haec disciplinae particula in appetendis et devitandis, et in omnibus denique comparabilibus vigeat. Plane huius lata est commendatio et male neglectus a prioribus, cum utilitate conspicua et verborum gratia iucundus sit, et tam ethicae quam physicae plurimum prosit.'

¹⁰³ See Cicero, *Academica*, I.9.34, who informs us that Strato must be denied the title 'philosopher', because he did not do work on ethics; and Peter Abelard, *Collationes*, ed. and trans. by Marenbon and Orlandi, §§ 2, 67–69, pp. 2, 82–86.

¹⁰⁴ Marenbon, *The Philosophy of Peter Abelard*, pp. 51–53, says that Abelard tempered his

twelfth century is more clearly in favour of an 'ethical' approach to logic than the Latin version of Al-Ghazālī's logic: logic is a tool that secures eternal bliss.¹⁰⁵ I have found no evidence that John knew this particular text, and modern scholars seem to agree that he did not. In any case, the kind of philosophy that interested him most was the one that would eventually lead to practical results.

In the next chapter John proceeds to deal briefly with *Topics* IV–V.¹⁰⁶ The fourth treats genus, and John points out that scholars would do well to study this chapter for the descriptions of genus and species, and their relationships with each other and with other things. Again, John consciously singles out a particular solution to a problem which he thinks that Aristotle solves in this chapter (contrary to another, well-known solution found in Porphyry). The problem is: 'Is body the genus of animal?';¹⁰⁷ and John claims that Porphyry, who answers 'yes', is followed by quite a few students of the subject, even if they are 'little ones' (*parvuli*, that is, young and inexperienced students or, perhaps more likely, lesser philosophers¹⁰⁸). But one of Aristotle's rules in the *Topics* is that a part may not in any sense be predicated of the whole, and since 'body' is only part of animal, this rule is used to solve the problem contrary to Porphyry's solution.¹⁰⁹ At first sight, it seems rather strange that John spends most of the summary of book IV on this problem, but, in fact, it is exactly what we would expect from him: to show that the *Topics* can be *practically* very important in solving central problems of the twelfth century. John points out that the problem with the answer that

logic during the 1120s, and that he was primarily a theologian in the 1130s. *Contra Mews*, 'Peter Abelard', p. 41. McLaughlin, 'Abelard's Conceptions', p. 528, claims more generally that 'placing ethics at the summit of philosophy' is an outstanding feature of Abelard compared with his contemporaries, but this seems to be an exaggeration. See, for example, John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 53 (on Bernard of Chartres's use of ethics in grammar) and a commentary on Ovid's *Metamorphoses* (here cited from Dotto, *Giovanni di Salisbury*, p. 13): 'Omnes auctores fere ad ethicam tendunt' (Almost all authors aim towards ethics). And further Delhay, 'Grammatica et Ethica', p. 91. Both Keats-Rohan, 'John of Salisbury and Education', p. 21, and Nederman, 'Beyond Stoicism and Aristotelianism', p. 175, distinguish sharply between Abelard's and John's moral philosophy, in my view wrongly.

¹⁰⁵ Al-Ghazālī, *Tractatus de logica*, prooemium, in 'Logica Algazelis', ed. by Lohr, pp. 241–42.

¹⁰⁶ John's description and analyses of *Topica*, IV–V: see John of Salisbury, *Metalogicon*, ed. by Hall, III.7, pp. 123–24.

¹⁰⁷ John of Salisbury, *Metalogicon*, ed. by Hall, III.7, pp. 123–24.

¹⁰⁸ For 'little ones' in this sense, see, for example, Gilbert of Poitiers, *Expositio in Boecii librum primum De trinitate*, II.1.prologus, II.4.prologus, in Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring, pp. 161, 162.

¹⁰⁹ Aristotle, *Topica*, IV.5, 126a26–29. See also IV.6, 127b5–7.

Porphry and his supporters provide is that they focus too much on the senses, and these are incapable of perceiving the soul, which is therefore in danger of being forgotten. Thus, John's method of choosing a single, important subject for closer investigation is prevalent both in his analyses of I–III and in those of IV–V.

In the following chapter John treats book VI of the *Topics*, which is concerned with definitions.¹¹⁰ In this chapter, he is immediately sidetracked by a discussion of different thinkers and their respective abilities to establish or demolish definitions. Aristotle is singled out as particularly good at demolishing the opinions of others, but not very good at establishing his own theses.¹¹¹ This echoes other passages in John's works,¹¹² and from a modern perspective it is, of course, a strange claim. After all, Aristotle described and analysed just about every subject of knowledge that he could find; and he did this *both* by refuting previous thinkers *and* by establishing his own views. However, it must be remembered that John did not know the Aristotle that we know today. In fact, he probably knew only the logical works, and they were certainly the only ones that he had read with any care. Still, it is admittedly a strange claim from someone who is using Aristotle's works as by far the most important in building his own theories of education and science.

The Aristotle whom one would know from reading only the *Organon* is admittedly particularly powerful when demolishing the views of others.¹¹³ Other thinkers, John continues, are good at arguing in favour of their own ideas, but not very capable in refuting others. The whole point of this digression seems to be that John wants to stress simply, and as an aside, that different persons are good at different things. Two things may be noted. First, that Aristotle did not yet have the status that he would soon achieve, but that, however, thinkers such as Adelard of Bath and Burgundio of Pisa did view Aristotle as a constructive thinker.¹¹⁴

¹¹⁰ John's description and analyses of *Topica*, VI: see John of Salisbury, *Metalogicon*, ed. by Hall, III.8, pp. 125–27.

¹¹¹ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 125.

¹¹² See, in particular, John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 851–62, 873–74, 935–36, pp. 161, 163, 167.

¹¹³ Elsewhere, John is, however, aware that Aristotle wrote on 'all the parts and precepts of philosophy' (*omnes philosophiae partes and praecepta*), but this is still not based on firsthand knowledge: John of Salisbury, *Policraticus*, ed. by Webb, II, p. 112 (bk VII, chap. 6). See also John of Salisbury, *Metalogicon*, ed. by Hall, IV.1, p. 140; John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 824–48, pp. 159–61. That Aristotle's philosophy was comprehensive is a piece of knowledge that could have been gained from Boethius in particular. See, for instance, the well-known passage on his own translations: Boethius, *Commentarium in De interpretatione*, ed. by Meiser, II (*editio secunda*), II.4.79–80.

¹¹⁴ Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 21–25.

Second, John would probably have learned from Cicero that there was one thinker who mastered both proof and demolishing of proof, namely, the sceptic Carneades.¹¹⁵ The same Cicero also seems to regard the Peripatetics as negative thinkers in the sense that they are the ones who first established the method of arguing both pro and contra in particular cases.¹¹⁶

Having finished his comparison of different kinds of thinkers, John returns to the subject matter of book VI of the *Topics*, and the rest of the chapter is well structured and to the point. He begins by pointing out that quite a few have written on definitions (Victorinus, Boethius, and Cicero are mentioned), but they all worked on the basis of Aristotle's first principles of definition. Aristotle's main interest, says John, was in substantial definitions, that is, definitions that 'should be made up of genus and substantial differences in such a way as to make them equal to the subject that they are defining'.¹¹⁷ This means that a substantial definition must state the defined subject in the broadest possible sense by stating the genus and the specific difference that makes that substance this particular substance.¹¹⁸

Of course, this is standard theory, and there is nothing very profound or novel about the description in the *Metalogicon*, but it is characteristic that John should single out this particular feature as the most important; for the direct relevance to the understanding of reality is obvious. Still, John does not ignore the general aspects of 'definition'. One must, he says, establish definitions on the basis of characteristics that can be known and understood without problems by anyone who *should* be able to do so; if one cannot in one's definitions use characteristics that are 'more known *simpliciter*', then alternatively, as a second best, those that are 'more known for us' must be used. Otherwise no true definition will result.¹¹⁹

On Burgundio, see below 4.2.4. Elsewhere in the *Metalogicon* John tells us that Aristotle 'excelled practically all other philosophers in practically all subjects' (qui alios fere omnes et fere in omnibus philosophos superabat): John of Salisbury, *Metalogicon*, ed. by Hall, iv.7, p. 145 (for the full quotation, see below p. 125, n. 202). The inconsistency must be due to the fact that John is here restating the views of Burgundio of Pisa, although he gives the impression of himself subscribing to them.

¹¹⁵ Cicero, *De oratore*, II.38.161.

¹¹⁶ Long, 'Cicero's Plato and Aristotle', pp. 52–58 with references.

¹¹⁷ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 125: 'Huic [*scil. Aristoteli* or *libro de Topicis*] vero de substantiali praecipue cura est, quae sic constare debet ex genere et substantialibus differentiis, ut proposito coaequetur.'

¹¹⁸ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 125: 'Recte enim assignata est cum fuerit aequalis definito, et planissima utitur interpretatione' ('The definition is rightly assigned when it is equal to the defined subject, when one takes it in the broadest possible sense').

¹¹⁹ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 126: 'Nota autem sic accipienda sunt,

A corollary is that all terms in a definition must be unambiguous. For instance, he says, if one asks: 'What is theoretical science/knowledge?', one cannot proceed to answer the question without making it clear what precisely the individual terms 'theoretical' and 'science/knowledge' signify.¹²⁰ The problem is well illustrated by my difficulties in translating *scientia*, and John is absolutely right and in complete accordance with Aristotle on this particular issue.¹²¹ One should also take care to include only the essential elements in a definition, and again he is right about this general point. For instance, one should include no kinds of temporary states or dispositions (*passiones, habitus*) in a definition, these being accidental states, as it were. Therefore, one should concentrate on defining substances, and one should be careful to use only proper terms in these definitions. However, one must also take care not to try to define things that do not admit of definition proper.¹²² In particular, John singles out 'principles' and 'individuals', the former because they cannot be assigned to a genus, the latter because they have no substantial differences. Principles are not further described, but concerning individuals John informs us that 'descriptions' (*descriptiones*) are used in place of 'definitions'. Descriptions are epistemologically much weaker than definitions, but as a result they should also be treated with more indulgence, that is, things that are not admitted in definitions may be granted in descriptions.¹²³ It may be noted that

quod bene dispositis intellectu innotescant. Quod autem nec ex simpliciter notioribus, neque ex his quae nobis notiora positum est, non facit ad definitionem' (One must use the kind of characteristics that are clear to someone intellectually well disposed. If something is posited which is based neither on characteristics more known *simpliciter*, nor on some that are more known to us, then it is of no help in the process of defining).

¹²⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 126: 'ut si quaeratur quid sit speculativa scientia, neutrum nec speculativa scilicet nec scientia, relinqui debet ambiguum' (for instance, if one asks 'What is theoretical science/knowledge?', then neither 'theoretical' nor 'science/knowledge' should be left ambiguous).

¹²¹ See Bloch, *Aristotle on Memory*, in particular pp. 118–21, 128–35, on Aristotle's methods and his definition of memory.

¹²² John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 127. See Boethius, *In Categorias Aristotelis*, ed. by Migne (PL 64, cols 159–294, col. 166).

¹²³ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 127. Interestingly, Nicholas of Amiens, in his *Ars fidei Catholicae*, replaced the Euclidean *definitiones* with *descriptiones*. It has been suggested by G. Evans that he did so in order to conform to logical terminology (see Burnett, 'Scientific Speculations', p. 164 and n. 51), but it may be that he simply wanted a less strict term for a science that was, admittedly, not usually treated demonstratively. For more technical analyses of definitions and descriptions, but with the same general content, see Cicero, *Topica*, § 83; Boethius, *De topicis differentiis*, ed. by Nikitas, II.6, III.6, pp. 30, 59–60; Garlandus

the Arabic *Liber introductorius* contains a variation of this view: definition is concerned with *species*, but at the most basic level, that is, ‘substance’ (*substantia*), descriptions take the place of definitions.¹²⁴ The same treatise is also very much concerned with ‘individuals’, but these are the object of ‘resolution’ (*resolutio*).¹²⁵

From his entire treatment of *Topics* VI it is clear that John regards definitions as very important, which is also obvious from the final paragraph:

When a definition is firmly established, it is a most efficient tool to construct and demolish a proposition, since its strength and weakness are equally dependent on the definition [*scil.* how well its terms have been defined].¹²⁶

In his treatment of *Topics* VII, which is still concerned with definitions, John discusses a more specific theme, namely, identity and diversity.¹²⁷ In this chapter he is initially more focused, and his divisions into generic, specific, and numerical provide the starting point for a simple and clear discussion of identity and diversity, which ends with a special praise of ‘definition’ as a tool: genus, accident, property, and definition are all needed in arguments concerning the important topic of identity and diversity, but definition is the most important, because it is the most efficient in argument and the one that is most immediately understandable and acceptable.¹²⁸

This discussion is successful, then, but it should be noted that it does not quite live up to its title (which, it must be said, is not authorial): ‘On the problem of “identity” and “diversity”, which is treated in the seventh book [*scil.* of the

Compotista, *Dialectica*, ed. by De Rijk, IV, p. 102; Peter Abelard, *Dialectica*, ed. by De Rijk, III.1, v.2, pp. 331, 585–86, 597–98; Hermann of Carinthia, *De essentiis*, ed. by Burnett, I, p. 108; Al-Ghazālī, *Tractatus de logica*, II, in ‘Logica Algazelis’, ed. by Lohr, p. 251.

¹²⁴ *Liber introductorius*, ed. by Nagy, I, p. 44.

¹²⁵ *Liber introductorius*, ed. by Nagy, I, pp. 42–44.

¹²⁶ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, p. 127: ‘Cum vero de definitione constabit, ad construendum destruendumque propositum efficacissimaest, quia cum ipso pariter infirmatur aut convalescit.’

¹²⁷ John’s description and analyses of *Topica*, VII: see John of Salisbury, *Metalogicon*, ed. by Hall, III.9, pp. 128–30.

¹²⁸ John of Salisbury, *Metalogicon*, ed. by Hall, III.9, p. 128: ‘Itaque non modo definitionum, sed generis, proprii, accidentis, necessaria est cognitio, tam ad astruendum quam ad destruendum ea problemata quae de eodem sunt et diverso. Sed nihil ad alterutram operam definitione utilius, quoniam nihil efficacius, nihil notius est’ (Cognition not only of definitions, but also of genus, property and accident, is necessary, both for constructing and tearing down the problems concerned with identity and diversity. But nothing is more useful for any of these tasks than definition; for there is nothing more efficient, nothing more known/understandable).

Topics], and some general points about the *Topics*.¹²⁹ For the discussion actually draws equally heavily on *Topics* I and even cites a long passage from this book.¹³⁰ Thus, his treatment of *Topics* VII is very much like the treatment of the first book of the *Topics*: competent, but not actually a strict description of the content of this particular book. The end of the same chapter fulfils the promise of the title: a treatment of ‘some general points about the *Topics*’.¹³¹ Among other things, John points out that the *Topics*, despite its brilliance, is not the final word on this subject, and he proceeds to a discussion of ‘discovery’ (*inventio*).¹³² William of Champeaux, John says, defined ‘discovery’ as ‘the science/knowledge of how to find the middle term’ (*scientia reperiendi medium terminum*), which leads John directly into a discussion of inference; for even though he accepts William of Champeaux’s definition as a point of departure, it is not completely accurate, he says.¹³³

It certainly is a general point about dialectic that a middle term is needed in order to construct a (dialectical) argument (*argumentum*), but obviously the situation is different as regards the inference between the dialectical propositions in an argument:

When there is a question about inference, it is necessary to search for some middle term, which, when posited, combines the extremes. [...] The middle term is necessary when the force of inference/entailment depends upon the terms. For if it [*scil.* the force of inference] is between whole propositions, so that it is bound to the combination of parts rather than to the parts that are combined, then the bond provided by a middle term ceases to exist.¹³⁴

¹²⁹ John of Salisbury, *Metalogicon*, ed. by Hall, III.9, p. 128: ‘De problemate eiusdem et diversi quod agitur in septimo, et communia quaedam Topicorum.’

¹³⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.9, p. 128 (lines 10–26). See Aristotle, *Topica*, I.7, 103a23–103b1.

¹³¹ For the following, see John of Salisbury, *Metalogicon*, ed. by Hall, III.9, pp. 129–30.

¹³² On ‘discovery’, see also above 3.1.4.

¹³³ For the following, see also the slightly different account in Hendley, ‘John of Salisbury’s Defense’, pp. 759–60. Al-Ghazālī, *Tractatus de logica*, IV, in ‘Logica Algazelis’, ed. by Lohr, p. 275, says that the task belongs to ‘argumentation’ (*argumentatio*), which is much broader than dialectic. See above 2.3.

¹³⁴ John of Salisbury, *Metalogicon*, ed. by Hall, III.9, p. 129: ‘Cum enim de inhaerentia dubitatur, necessarium est aliquod inquiri medium, cuius interventu copulentur extrema. [...] Medium vero necessarium est, ubi vis inferentiae in terminis vertitur. Si enim inter totas propositiones sit ut potius sit obnoxia complexioni partium quam partibus complexis, medii nexus cessat.’

The whole topic of inferences was, of course, of great interest to the major logicians of John's time, and it is not difficult to point to sources for his views. In particular, Abelard treats the subject thoroughly in the third treatise of the *Dialectica*, and John would have learned from him that there are different kinds of inferences (some being perfect, others imperfect, some again being necessary by consequence, others by the nature of things), and that they may be based both on terms and on whole propositions. It may perhaps also be interesting that the Latin Al-Ghazālī clearly distinguishes a particular kind of proposition which naturally looks as though it is primary and without a middle term. The truth is, he says, that such a proposition does, in fact, have a middle term; it is simply understood too quickly and easily for it to be always explicitly recognized.¹³⁵ These are among the possible sources for John's view; the peculiar thing about his own treatment is the fact that it occurs in a section specifically concerned with middle terms.

It is not surprising that John is interested primarily in the ways that one should handle concrete examples and problems of terms and propositions in a disputation. The agreement (*cohaerentia*), disagreement (*repugnantia*), or neutrality of the *content* of two terms determines not only the further progress but also the *kind* of deduction that one is about to make:

Unless the things signified [*scil.* by the relevant terms] either agree or disagree with each other, there is no reason why one should search for 'friendship' or 'hostility' in the terms. But it is not always easy in the individual cases to find out how strong the bond between the things is, or how much they conflict with each other, and therefore it is sometimes difficult to determine what is necessary *simpliciter*, and what is rather very probable.¹³⁶

This passage reveals that John does not mind establishing a stronger connection between demonstration and dialectic than Aristotle ever did; and John's remarks

¹³⁵ Al-Ghazālī, *Tractatus de logica*, IV, in 'Logica Algazelis', ed. by Lohr, p. 275: 'Propositiones vero quae secum habent probationem suam naturaliter sunt illae quibus non acquiescit animus nisi per medium terminum. Quem quia in promptu est intelligere, idcirco putatur propositio illa esse prima quae scitur sine medio termino. Quae tamen revera non scitur nisi per medium terminum' (Propositions that naturally carry their own proof by themselves are such that the mind does not assent to them without a middle term. But since the middle term is so readily grasped here, the proposition is thought to be primary and known without a middle term explicitly stated. But, in fact, it is not known without a middle term). On the passage, see also Lagerlund, 'Al-Ghazālī on the Form and Matter', p. 204, who focuses on a different aspect.

¹³⁶ John of Salisbury, *Metalogicon*, ed. by Hall, III.9, p. 129: 'Nisi enim res significatae sibi cohaereant aut repugnent, non est quare in terminis familiaritas aut hostilitas requiratur. Non est autem facile in singulis semper explorare rerum quam firmus sit nexus, aut quanta dissensio, et ob hoc quid simpliciter necesse, quidve magis probabile sit iudicare, interdum difficilior est.'

tell us quite a lot about his views on demonstration, even though he is yet to treat this subject. The problem that he mentions is a real one: how does one determine whether or not the connection between two or more things is necessary or merely probable? According to John, this is usually not possible, and this, of course, agrees with the fact that he prefers dialectic over demonstration.

However, this does not really change the argument itself; for the argument to be made, it does not matter whether the material connections are necessary or merely probable, that is, it does not matter to the argument as such whether it is demonstrative or dialectical. It is relevant only to the *person* who is constructing the argument, and the *person* who is accepting or refusing it. One should think that demonstrative arguments would always be preferable, but considering the attitude that John is later to display,¹³⁷ it is surprising that he apparently allows the possibility of demonstration more generally. At least, it can be argued that this is the natural interpretation of 'not always' (*non semper*) and 'sometimes' (*interdum*) in the quotation above. For if it is 'sometimes difficult to determine what is necessary *simpliciter*', there should also be times where it is *not* difficult. And it must be noted that John does not seem to have mathematics in mind but rather phenomena in the external world. Thus, demonstration seems sometimes to be possible even in natural science. For this more positive view concerning demonstration, John may well have been inspired by other twelfth-century sources.¹³⁸

John goes on to say that nature generally conceals what is necessary, and therefore man has no better science than the probabilistic one. Of course there is nothing in his description to suggest that one should be satisfied with superficially convincing arguments when more can be learned about the subject. In fact, this would go against John's general outlook; for, as G. Evans has pointed out, John 'believes in taking meticulous care in study, so that things are properly mastered'.¹³⁹ Even though John may on occasion fail to live up to such standards, it would be very surprising if he did so in the case of a general theory such as the one described here. Therefore, the sceptical position that John is advocating is more sophisticated. It is well described by an amusing example that he himself provides:

It was long thought that it was impossible to cut diamonds, since their matter did not yield to sharpened iron or sharpened steel. But when they were eventually cut using lead and goat's blood, it became apparent that it was actually quite easy to do what had previously seemed impossible.¹⁴⁰

¹³⁷ See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, iv.6, p. 145, and below 4.2.5.

¹³⁸ See above 2.3 and the extensive treatment below in 4.2.4–4.2.8.

¹³⁹ Evans, 'John of Salisbury and Boethius', p. 167.

¹⁴⁰ John of Salisbury, *Metalogicon*, ed. by Hall, iii.9, p. 130: 'Adamas diu habitus est insecu-

This may not be the way that one would cut diamonds nowadays, but the general point of the example is clear, and correct, many would probably say.¹⁴¹ It is extremely difficult to determine whether a conclusion is based on necessary premises (demonstrative) or probable (dialectical) ones, and time will often prove earlier generations wrong on such issues. Anonymus Aurelianensis II, who may well be John's contemporary, says that the mistake of accepting basic premises as necessary, and thus of producing an apparent but not real demonstrative syllogism, is a common source of parallogisms.¹⁴²

Given examples like the above, probabilistic science must be preferred, John argues. The same problem is discussed carefully in the Arabic *Liber introductorius*.¹⁴³ However, John does not yet tell us more precisely how one should treat demonstrative science. To this subject we shall return below.¹⁴⁴

In the long chapter on the last book of the *Topics* John describes the debate proper.¹⁴⁵ The preceding books of this Aristotelian work, he says, were all preparations for the actual debate, and the rules for the art (or science or system) of argumentative reasoning (*ars/scientia/ratio disserendi*) are described in *Topics* VIII. As is well known, Cicero used 'art/system of argumentative reasoning' to signify logic,¹⁴⁶ and this, or a very similar, use was still not unusual in the twelfth century.¹⁴⁷ Most noticeable, Adam of Balsham named his highly technical handbook of logic *Ars disserendi*; at the least, John knew the work by this title, and he ascribed

bilis, quia nec ferri nec calibis verebatur acumen. Tandem vero cum plumbo et sanguine hircino sectus esset, patuit factu facile, quod prius impossibile videbatur.' As pointed out already by Webb in his *apparatus fontium*, and noted also in both McGarry's translation and Hall's edition, a similar story is found in Pliny the Elder, Augustine, and Isidore, but lead is not mentioned by any of them.

¹⁴¹ For an example to the same effect concerning the possibility of virgin birth, see John of Salisbury, *Metalogicon*, ed. by Hall, II.13, p. 75.

¹⁴² Anonymus Aurelianensis II, *De parallogismis*, in 'Anonymus Aurelianensis II', ed. by Ebbesen, p. 21.

¹⁴³ *Liber introductorius*, ed. by Nagy, II, pp. 45–49.

¹⁴⁴ See below 4.2.4–4.2.8.

¹⁴⁵ John's description and analyses of *Topica*, VIII: see John of Salisbury, *Metalogicon*, ed. by Hall, III.10, pp. 130–39.

¹⁴⁶ In particular, Cicero, *De fato*, I, 'totaque est λογική, quam rationem disserendi voco', but see also, for example, Cicero, *Topica*, § 6; Cicero, *De finibus*, I.8, IV.10. The medievals had an even better-known source for this use in Boethius, *De topicis differentiis*, ed. by Nikitas, I.1, III.2, pp. 1, 49, who himself traced it back to Cicero. For the coupling of 'art' (*ars*) and 'system' (*ratio*) in John's work on logic, see John of Salisbury, *Metalogicon*, ed. by Hall, I.11, p. 29.

¹⁴⁷ For further references, see Boethius, *De topicis differentiis*, trans. by Stump, p. 97, n. 1.

the origin of the title to Adam himself.¹⁴⁸ John himself defined logic (in the narrow sense) as a ‘system of argumentative reasoning’ (*ratio disserendi*),¹⁴⁹ but this means the same as ‘art of argumentative reasoning’, and the origin of the former expression is also Cicero.¹⁵⁰ Assisted by Augustine’s definition of dialectic as ‘the science of discussing well’ (*bene disputandi scientia*), John, more than for example Adam does, focuses his attention more on the dialectical aspects of the expression, to the exclusion of demonstrative and eristic logic.¹⁵¹ But there is no question that ‘art/system of argumentative reasoning’ is a very important subject, according to him, and that it also comprises the central elements of logic as such. Therefore, a remark that John makes concerning *Topics* VIII is extremely important:

This [*scil.* book VIII of the *Topics*] is the only one to treat the rules by which the art is constituted, and if one keeps its content in mind and uses it in continual exercise, then it contributes more to the art of argumentative reasoning than almost all the books on dialectic that our modern predecessors used to ‘read’ in the schools. For without this book disputation is conducted not by art but rather by chance.¹⁵²

This passage is in accordance with Aristotle’s thoughts in *Topics* VIII (as well as the rest of the *Topics*), which clearly constitutes a description and analysis of formalized debates between *two* persons, a ‘questioner’ and an ‘answerer’; the rules and general inspiration he probably took over from the debates that were staged in Plato’s Academy.¹⁵³ John explicitly says that ‘the exercise of dialectic is directed

¹⁴⁸ John of Salisbury, *Metalogicon*, ed. by Hall, IV.3, p. 142: ‘Quo quidem vitio Anglicus noster Adam mihi prae ceteris visus est laborasse in libro quem Artem Disserendi inscripsit’ (Our fellow Englishman, Adam, seems to me more than others to have fallen into this trap [*scil.* of imitating Aristotle’s difficult style of writing] in the book that he entitled *The Art of Argumentative Reasoning*).

¹⁴⁹ John of Salisbury, *Metalogicon*, ed. by Hall, I.10, II.1, pp. 28–29, 56–57.

¹⁵⁰ See quotation immediately above, n. 146.

¹⁵¹ See John of Salisbury, *Metalogicon*, ed. by Hall, II.4, pp. 60–61; Augustine, *De dialectica*, trans. by Jackson, p. 83 (PL 32, col. 1409). On the definition, see also Augustine, *De dialectica*, trans. by Jackson, pp. 121–22, n. 2. Augustine’s authorship of the text has been disputed, but that is irrelevant for the present purpose.

¹⁵² John of Salisbury, *Metalogicon*, ed. by Hall, III.10, p. 131: ‘Solus itaque versatur in praeceptis, ex quibus ars compaginatur, et plus confert ad scientiam disserendi, si memoriter habeatur in corde, et iugi exercitio versetur in opere, quam omnes fere libri dialecticae, quos moderni patres nostri in scholis legere consueverant. Nam sine eo non disputatur arte, sed casu.’

¹⁵³ Interesting information about debates in the Academy and the Lykeion can be found in the articles in *Aristotle on Dialectic*, ed. by Owen. Note also that a book containing a collection of articles concerned with the development of dialectic from Plato to Aristotle is currently in preparation: *The Development of Dialectic*, ed. by Fink.

at another', that is, 'another person'.¹⁵⁴ But even though John sees dialectic as a two-man project, its real importance concerns general scientific method, whether or not two persons are actually involved. He prefers two persons,¹⁵⁵ but he has no objections to thinkers conducting dialectical investigations by themselves:

If no opponent is available, one should examine for oneself which, how many and how strong are the arguments that are in favour of, or go against, the thesis that has been proposed.¹⁵⁶

Dialectic in this sense is a scientific approach to subjects about which some sort of knowledge can be obtained; that is, the subjects of the different branches of twelfth-century philosophy. As we shall see below, the procedure is best embedded in the exercise of 'reading' (*legere*) when a single person is doing it.¹⁵⁷

In any case, combined with the general views on 'art/system of argumentative reasoning', the two passages indicate, firstly, the crucial position of dialectic within logic, and they further show that John took the descriptions in *Topics* VIII to be essential when one actually does scientific work. According to John, *Topics* VIII simply contains the rules (*praecepta*) that constitute the art of argumentative reasoning, and as such it constitutes the foundation of the most important branch of logic.

These rather long descriptions and analyses of the relevant chapters of the *Metalogicon* show John's enthusiasm and respect for the *Topics*, but they also illustrate his lack of ability to stay focused on the topic at hand. Still, he is very clear about the fact that his summaries of the different books of the *Topics* are *not* a commentary, but constitute an outline of the contents with particular emphasis on the subjects that he believes to be the most important.¹⁵⁸ His treatment of this

¹⁵⁴ John of Salisbury, *Metalogicon*, ed. by Hall, III.10, p. 131: '[E]xercitatio dialecticae ad alterum est'. On this, see also Aristotle, *Topica*, VIII.1, 151b3–16; *Sophistici elenchi*, 7, 169a36–b2.

¹⁵⁵ John of Salisbury, *Metalogicon*, ed. by Hall, III.10, p. 138: 'Sed licet nunc ad se nunc ad alterum contingat utiliter exerceri, collatio meditatione videtur utilior. "Ut enim ferrum ferro acuitur", sic ad vocem alterius contingit animum colloquentis acutius et efficacius excitari' (Even though one can profitably work dialectically alone as well as with another [person], cooperation is more profitable than meditating on one's own. 'For just as iron is sharpened by iron' [Proverbs 27. 17], so also one's mind is aroused by the voice of someone else who is arguing cogently and efficiently).

¹⁵⁶ John of Salisbury, *Metalogicon*, ed. by Hall, III.10, p. 137: 'Et si adversarius deest, secum quisque experiatur quae quot et quanta propositae quaestionis articulum muniant aut impugnent.' In Aristotle, *Topica*, VIII.1, 151b3–16, the presence vs. absence of an interlocutor is the point that separates the dialectician from the philosopher.

¹⁵⁷ See below 4.2.8.

¹⁵⁸ See John of Salisbury, *Metalogicon*, ed. by Hall, III.7, p. 123: 'In hac speculatione non

work is by far the most comprehensive and thorough of all his summaries of the treatises of the *Organon*, but still does not treat the work in detail.¹⁵⁹ He seems to be familiar with the entire *Topics*; in fact, he knows it rather well, and he considers it by far the most important work on logic and scientific theory.

For this reason John is also much surprised that the *Topics* has fallen into disuse or even been ignored and slandered for so long despite its obvious utility.¹⁶⁰ John's claim is to some extent a rhetorical one; for it is somewhat difficult to see how there could be time before John's work for the treatise to have both been used and then fall into disuse. However, the claim cannot be entirely rhetorical, at least not if John is right in saying that Robert of Melun's students (and perhaps Thierry of Chartres as well) regarded the treatise as useless.¹⁶¹ It has been suggested that John is referring to the fact that it fell into disuse at a much earlier date and was then recovered in his own time. His wording in some passages would certainly support this kind of reading,¹⁶² but I still think that the references in IV.24 to scholars who slander the *Topics* show an existing tension in the twelfth century. I also think it is somewhat strange that John should be puzzled by the fact that the *Topics* had fallen into disuse, if he is referring to much earlier times; for he knew well that translations were only becoming available in his own time.

In any case, the *Topics* experienced a comeback in the twelfth century. John does not himself take credit for bringing the treatise back into serious studies; the honour, he says, belongs to someone else, but he does not mention any names. Perhaps he is thinking of Adam of Balsham,¹⁶³ or Thierry of Chartres,¹⁶⁴ who may

credo diutius immorandum, cum de rerum generibus multa superius dicta sint, et non sit nostri propositi in hoc opus speciales commentarios facere' (I do not think that I have to spend much time on this subject, since much has been said about the genera of things above, and it is not our purpose to write detailed commentaries on this work [*scil.* the *Topics*]). See also John of Salisbury, *Metalogicon*, ed. by Hall, III.10, p. 139.

¹⁵⁹ See also Green-Pedersen, *The Tradition of the Topics*, p. 87: 'John [...] does little more than simply reproduce or paraphrase sections of Aristotle's text [that is, the *Topics*] which interest him for some reason or other. There is no real interpretation of Aristotle by John.'

¹⁶⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, III.6, IV.24, pp. 119, 123, 162.

¹⁶¹ John of Salisbury, *Metalogicon*, ed. by Hall, IV.24, p. 162. On Thierry, see also above p. 30, nn. 225–26 and below pp. 116–17, nn. 164–65.

¹⁶² John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119.

¹⁶³ See Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, VI–VII, p. 5, for what I believe to be strong evidence in favour of this. Hunt, 'Aristotle, Dialectic, and Courtly Literature', p. 98 with his note 10 claims this as a fact.

¹⁶⁴ John of Salisbury, *Metalogicon*, trans. by McGarry, p. 172, n. 223, and Burnett, 'John of Salisbury and Aristotle', p. 24, n. 19, among others, suggest Thierry of Chartres. He included

have used the related text, *Sophistici elenchi*, before Adam.¹⁶⁵ Although Adam ran a somewhat exclusive school, and it may therefore be doubted whether he had the general influence to promote the text to a larger audience, there is also evidence to show that his general abilities and his interpretations of Aristotle were much admired.¹⁶⁶ As we have seen above,¹⁶⁷ an anonymous twelfth-century translation of the *Topics* may well have played a part too, perhaps even the larger part. Whether or not it was Adam (which I think most likely), Thierry, the anonymous translator, or someone else who inspired thinkers to use the *Topics* again, John's statement gives rise to three related questions:

1. Why would the *Topics* fall into disuse and even be ridiculed as unworthy of its author?
2. Why would its utility suddenly become obvious?
3. What exactly was the utility of the *Topics* from the perspective of twelfth-century thought and science?

As to question 1, John has no explanation. In fact, he is puzzled. The problem is probably complex, but a number of tentative answers can be given. First, it may be noticed that a similar phenomenon occurred in the twentieth century.¹⁶⁸ The greatest Aristotelian of the century, Sir David Ross, wrote extensively on Aristotelian logic in his excellent introduction to Aristotle's thinking, but on the *Topics* he offered only three pages and concluded his treatment with the following remark:

the *Topics* in his *Heptateuchon* (see below Appendix 2), and Thierry certainly knew and used the *Topics* in the 1130s if Fredborg's dating of the *De inventione* commentary is correct. See the introduction in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg, pp. 9–12, along with the text, Thierry of Chartres, *Commentarius super De inventione*, accessus, in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg, p. 53, for a reference to *Topics*.

¹⁶⁵ See below 4.2.5, and the epitaph of Thierry of Chartres, verse 27, in 'Une épitaphe inédite de Thierry de Chartres', ed. by Vernet, p. 670: 'Primus Analyticos primusque resolvit Elencos' (He [Thierry] was the first to release the *Analytics* and the *Sophistici elenchi*). Still, Adam is perhaps a more likely candidate, at least if my translation of the passage from iv.24 is correct (see above p. 28 and n. 30). It may also be noticed that the quotation from the epitaph does *not* mention the *Topics*.

¹⁶⁶ See, for example, John of Salisbury, *Metalogicon*, ed. by Hall, II.10, III.prologus, III.3, pp. 72, 102, 114–15; 'Die Metamorphose des Goliath', ed. by Huygens, verses 193–96, p. 771; Godefroy de Saint-Victor, *Fons philosophiae*, ed. by Michaud-Quantin, verses 277–96, pp. 44–45, which is an implicit, but obvious, reference to Adam. On Godfrey of St Victor, see Ferruolo, *The Origins of the University*, pp. 40–44.

¹⁶⁷ See above 4.2.3.

¹⁶⁸ Gerl, 'Zum mittelalterlichen Spannungsfeld', p. 51, points to the same fact.

We have neither the space nor the wish to follow Aristotle in his laborious exploration of the *τόποι*, the pigeon-holes from which dialectical reasoning is to draw its arguments. The discussion belongs to a by-gone mode of thought; it is one of the last efforts of that movement of the Greek spirit towards a general culture, that attempt to discuss all manner of subjects without studying their appropriate first principles, which we know as the sophistic movement. What distinguishes Aristotle from the sophists, at any rate as they are depicted both by him and by Plato, is that his motive is to aid his hearers and readers not to win either gain or glory by a false appearance of wisdom, but to discuss questions as sensibly as they can be discussed without special knowledge. But he has himself shown a better way, the way of science; it is his own *Analytics* that have made his *Topics* out of date.¹⁶⁹

Obviously, it can be argued that Ross was wrong in referring to the *Topics* as ‘a by-gone mode of thought’ and ‘last efforts’, and the second half of the twentieth century witnessed a renewed interest in the text. The really interesting observation for the present purpose is Ross’s last statement: the *Topics* does not, according to him, constitute ‘the way of science’, whereas the *Analytics*, that is, the combination of *Prior* and *Posterior Analytics*, does. The issues here are, firstly, exact and certain results versus high probability, and, secondly, the value, or lack of value, of an argumentative, strictly logical, procedure without interference from external elements. Arguments against the *Topics* as a source of science would not have caused John to hesitate, and his younger contemporary, Peter of Poitiers, explicitly says that probability is the tool of philosophy, whereas truth belongs to theology; there is, apparently, no room for demonstrative knowledge.¹⁷⁰

However, such arguments may have worked, and actually *been* at work, among some of his other contemporaries, which would at least go some way to explain the neglect of the treatise. For instance, Gilbert of Poitiers was not the sort of man who would accept feeble arguments in his school. We can presume that Abelard was not either, but he worked within the tradition of the *Logica vetus*, and thus he may not have been free to evaluate the positive and negative sides of the recently recovered *Topics* — if indeed he ever read it, which is very uncertain.¹⁷¹ And, as we have seen, some of Robert of Melun’s students found it useless.¹⁷² John is

¹⁶⁹ Ross, *Aristotle*, p. 57.

¹⁷⁰ Peter of Poitiers, *Sententiarum libri quinque*, ed. by Migne, 1.32.93: ‘quia magis fuit [scil. Boethius] philosophus quam theologus, et magis ad probabilitatem locutus est quam ad veritatem’ (for [in this particular case] Boethius was a philosopher rather than a theologian, and he spoke to obtain probability rather than truth) (PL 211, col. 923).

¹⁷¹ Peter Abelard, *Logica ingredientibus: Super topica glossae*, ed. by Dal Pra, 242.17–22, 299.39–42, on opinion vs. truth as a problem in Boethius.

¹⁷² John of Salisbury, *Metalogicon*, ed. by Hall, iv.24, p. 162. For John’s views concerning

himself a witness for a strict approach to logic and science in the second half of the twelfth century. The description of his own immediate reaction to Abelard's teaching, and even his disapproving description of the work that was carried out at Mont Ste Geneviève after Abelard's departure, both clearly indicate a school that focused on extreme precision in all investigations.¹⁷³ And such precision in investigation and argument is not learned from the *Topics* but rather from the *Prior Analytics*, or from other works on deductions, for example from Boethius's works on syllogisms. John would probably agree that the *Topics* is not about precision. First of all, Aristotle himself says as much at the beginning of the work, where he makes it clear that the major purpose of dialectic is to avoid self-contradiction.¹⁷⁴ And furthermore, as we have seen several times above, precision is *not* the goal, according to John, or at least it could only be a utopian ideal, since perfect knowledge is not possible for human beings without the assistance of God. Without thereby condemning all sorts of scepticism as defeatism,¹⁷⁵ we may say that John's general attitude has the air of resignation when problems get too complicated; that is, he is not willing to spend too much time on individual problems, which he is therefore apt to regard as trifles. What I am suggesting here is, then, that John is not representative of the best scholars of the first half of the twelfth century, who would agree with Ross that true science is better conducted with the use of the *Prior* and *Posterior Analytics*, or at least with works that describe similar procedures. From their point of view, there were good reasons why the *Topics* could never be the central text that John would have liked.

Melun-scholars, see also John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verse 55, p. 109.

¹⁷³ See above 1.1.1. Also, the fact that John perceived Abelard as always striving for 'necessity' in his deductions is important in this respect: John of Salisbury, *Metalogicon*, ed. by Hall, III.6, p. 122, and below 4.2.8.

¹⁷⁴ Aristotle, *Topica*, trans. by Boethius, I.1, 100a18–21, in Aristotle, *Topica*, ed. by Minio-Paluello, pt 1, p. 5: 'Propositum quidem negotii est methodum invenire a qua poterimus syllogizare de omni problemate ex probabilibus, et ipsi disputationem sustinentes nichil dicemus repugnans' (The purpose of this work is to find a method by which we can make deductions about every problem on the basis of probable arguments/premises/views, and ourselves sustain the argument without saying anything inconsistent). The Latin *ex probabilibus* translates the Greek ἐξ ἐνδόξων.

¹⁷⁵ Antiquity produced extremely refined versions of scepticism, and by various roads their positions have been carried through different historical periods with very interesting results. *The Skeptical Tradition*, ed. by Burnyeat, is an excellent beginning when one wants to study the sceptical tradition. On scepticism in the Middle Ages, see Perler, *Zweifel und Gewissheit; Rethinking the History of Skepticism*, ed. by Lagerlund.

Second, as a more tangible piece of evidence it may be noted that even twelfth-century scholars who were interested in dialectic and the different related topics already had the texts they needed. Boethius's *De topicis differentiis*, his *De divisione*, and Cicero's *Topics*, in particular, served their purposes perfectly.¹⁷⁶ And Boethius even supported the view that the philosopher should focus on demonstrative, not probable, logic, even though he would also benefit from the latter.¹⁷⁷

Third, and finally, it should be stressed again that there may well be a certain amount of exaggeration in John's statement that the *Topics* was ignored and ridiculed for a long period. The *Logica nova* had not been recovered until early in the twelfth century. Therefore, if the usual assumption that the *Topics* did not become known again until about 1120 or later is correct, and if the text was once again being used during John's days of study, then the treatise will have been neglected for twenty to thirty years at most.¹⁷⁸

If the reasons in favour of twelfth-century scholars disregarding the *Topics* that I have presented above are true, question 2 also demands some further treatment: Why would one use the *Topics* when the two *Analytics* were available? First of all, John states emphatically, and rightly, most would agree, that this particular Aristotelian treatise is much clearer and easier to read than are the other texts of the *Organon*.¹⁷⁹ He further, and less convincingly, claims that the number of books and the extent of the treatments in the *Topics* also indicate its general worth.¹⁸⁰ Second, as indicated already in my answer to question 1, one's preferences in this respect very much depend on one's general outlook. John of Salisbury found the world confusing and impossible to structure with anything approximating certainty.¹⁸¹ Applied to such a world, demonstrative science is almost useless, as we shall also see below, whereas the methods of the *Topics* are perfectly suited.

But others saw it differently. The new Aristotelian texts, very quickly also including Greek commentaries and Arabic texts, gave many scholars the impression that knowledge could still be advanced to a considerable extent with resulting understanding of all areas of science. After all, the *Corpus Aristotelicum* is an extensive attempt to understand, or at least bring some sort of order to,

¹⁷⁶ See John of Salisbury, *Metalogicon*, ed. by Hall, III.9, p. 129, in which passage John explains that these texts all derive from Aristotle's *Topics*.

¹⁷⁷ Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, pp. 18–20.

¹⁷⁸ See above 2.1.1.

¹⁷⁹ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, pp. 119–20. *Contra* Cicero, *Topica*, § 3.

¹⁸⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 120.

¹⁸¹ See also above 4.1.2 on John's academic scepticism.

everything in the world. The more texts that became available, and the more they were read, the more optimistic were scholars.¹⁸² It simply demanded an open and sharp mind, perseverance, thorough analysis of details as well as larger problems, and general coherence of thought.

But John could not have been the one doing such work; he simply did not have the time for it, and furthermore he did not spend much time studying after he left Paris in 1147/8.¹⁸³ However, the *Topics* was potentially a very useful text for every scholar, both professional and amateur: for John and scholars sharing his worldview it was the source of arguments that would settle almost any dispute, and as a result the *Topics* would be the most important treatise on science. For more scientifically minded scholars it could, for instance, be used to discuss the principles of science¹⁸⁴ and for general testing of arguments that had been put forward as scientific,¹⁸⁵ but in the end it could never itself be the basis of precise science or scholarship. At least, Aristotle himself says as much, namely, that merely probable premises can never be principles of true science.¹⁸⁶ But one must remember that the Aristotelian treatises of the *Organon* did not become available at exactly the same time, and the *Topics* was almost certainly known, and no doubt understood, before the *Posterior Analytics*.¹⁸⁷ Thus, whereas Ross had easy access to all three texts (*Prior* and *Posterior Analytics* and *Topics*), and could easily see that the former two offered much greater precision than the latter, John's predecessors (and to some extent John himself) did not have the same opportunities. The *Topics* was a useful text, and in light of the fact that other works on *loci* were known beforehand, namely, those of Cicero and Boethius, it did not present insurmountable difficulties. Nonetheless, much was still needed

¹⁸² On twelfth-century attitudes in general towards the world, science, and knowledge, see *A History of Twelfth-Century Western Philosophy*, ed. by Dronke.

¹⁸³ See Bloch, 'John of Salisbury, "John" the Translator', and above 2.1.2.

¹⁸⁴ For this use of dialectic, see also Aristotle, *Topica*, I.2, 101a34–b4.

¹⁸⁵ For this use of dialectic, see also Aristotle, *APo.*, I.4, 73a28–34; I.6, 74b18–21.

¹⁸⁶ Aristotle, *APo.*, trans. by Iacobi, I.6, 74b21–25, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 17: 'Manifestum est autem ex his et quoniam stulti sunt accipere opinati bene principia, si probabilis sit propositio et vera, ut sophiste quoniam scire scientiam est habere. Non enim quod probabile est aut non principium est, sed primum genere circa quod demonstratur' (From the preceding arguments it is clear also that those who think that they grasp the principles in the right way are stupid if the proposition is probable and true, just as the sophists say that 'knowing' is to have knowledge. For a principle is not what is probable or not, but rather it is the primary constituent in the genus about which demonstration is being made).

¹⁸⁷ See above 2.1.

in order to understand and use the *Posterior Analytics*; for even though theories of demonstrations were known through Euclid and Boethius in particular, the *Posterior Analytics* was much more difficult, and did not just simply fit into the thoughts presented by the other writers on demonstration. Therefore, a revival of the *Topics* was only natural.

Thus, we have also begun to answer question 3: What exactly made the *Topics* a useful text for scholars of the twelfth century? There will, of course, have been several reasons. For instance, accessibility may have played a part, although it is difficult to say anything certain about the first half of the twelfth century. Nowadays Boethius's translation is extant, and this was also the one that was used throughout the Middle Ages.¹⁸⁸ But, as we have mentioned earlier, another translation of the *Topics* was produced in the twelfth century, probably early in the period 1120–59, by an anonymous scholar,¹⁸⁹ and in the prologue he informs us that Boethius made a translation of the *Topics*, but by some unknown and sad accident this translation had become inaccessible, or had literally disappeared.¹⁹⁰ Of course, there is room for some scepticism here, and Minio-Paluello regards the translator's words as a blatant attempt to promote his own translation.¹⁹¹ Obviously Boethius's translation did not disappear, but the translator's comment would be very strange if everyone knew, and had access to, the *Topics* in Boethius's translation. John's comments on the neglect and ridicule to which this Aristotelian treatise had been submitted point in the same direction.¹⁹² Therefore, the truth may well be that the translator himself knew and had (probably) seen Boethius's translation, but also knew that it was not yet widely circulated; perhaps he even thought that his version of the *Topics* still had the chance to become the standard one. Of course, it never did.

¹⁸⁸ See Dod, 'Aristoteles Latinus', p. 75, who enumerates 268 extant manuscripts containing Boethius's translation. On this subject and the following argument, see also above 2.1 and 4.2.3.

¹⁸⁹ Aristotle, *Topica*, ed. by Minio-Paluello, p. xlvii, claims, on the basis of the translator's prologue, that it is probably from the period 1120–1160, and that the *terminus ante quem* is around 1175. But since John of Salisbury seems to know this prologue (see above 4.2.3), the *terminus ante quem* must be at least 1159, and I suspect that the actual date of composition is probably somewhat earlier, since, as I argue in what follows, Boethius's cannot at the time of composition have been established as the standard translation.

¹⁹⁰ Prologue to *Translatio anonyma*, printed in Aristotle, *Topica*, ed. by Minio-Paluello, pp. xlii–xliii: 'Haec itaque Aristotelica a latinorum duce et philosopho scilicet Boethio in latinam eloquentiam aliquando deducta, sed incertum quo nefandissimo casu obliata' (p. xliii).

¹⁹¹ Aristotle, *Topica*, ed. by Minio-Paluello, pp. xlvi–xlvi.

¹⁹² John of Salisbury, *Metalogicon*, ed. by Hall, III.5–6, IV.24, pp. 118–23, 162.

More importantly and interestingly, the *Topics* is full of *practical* advice concerning discussion and disputation, and we know, of course, that such disputations were of importance already in the twelfth-century schools. Abelard's victory over William of Champeaux is well known, and was unusual in being a real discussion between teacher and student (even with the student as the admittedly self-proclaimed winner), but the ability to dispute was necessary to survive in the scholarly environment of Paris in the twelfth century. The reception of the *Sophistici elenchi* indicates the same fact.¹⁹³ This text immediately became popular when it was made available at the start of the twelfth century; and one of the major reasons was that it teaches you not only to avoid fallacies in your own argument (or alternatively how to use them most cleverly in order to trick the opponent), but also to expose an opponent who uses fallacious arguments in a debate. A combination of the *Topics* and the *Sophistici elenchi* is a very efficient tool.

4.2.4. John of Salisbury on the *Posterior Analytics* and Demonstration

Much energy has been expended on analyses of Aristotle's *Posterior Analytics* during the last fifty years.¹⁹⁴ As a result of the difficult nature of the text, very different interpretations have been put forward, and it is pointless to discuss the different theories and analyses here. The most important discussion in modern Aristotelian scholarship for my purpose concerns the function of the theory of demonstration that Aristotle sets forth in this work. Earlier it was the *communis opinio* in the scholarly community that the topic of this treatise is simply a theory of science, and this view is still not uncommon. However, it has been argued with some force that the *Posterior Analytics* does not really establish a theory of science but, rather, informs us how to *present* the results of scientific research to others.

To determine more precisely the purpose and function of the theory of demonstration is indeed relevant to the present investigation. However, the Middle Ages did not see any opposition between the two views just outlined. They certainly discerned a theory of science, but they also saw a theory of how to

¹⁹³ On this subject, see above 2.1.1.

¹⁹⁴ For a number of recent and/or authoritative studies, see Barnes, 'Aristotle's Theory of Demonstration'; Mignucci, *L'argomentazione; Aristotle on Science*, ed. by Berti; McKirahan, *Principles and Proofs*; Ferejohn, *The Origins of Aristotelian Science*; Aristotle, *Posterior Analytics*, trans. by Barnes; Aristotle, *Analytica posteriora*, trans. by Detel; Goldin, *Explaining an Eclipse*; Byrne, *Analysis and Science*; Charles, *Aristotle on Meaning and Essence*; De Rijk, *Aristotle: Semantics and Ontology*; Harari, *Knowledge and Demonstration*; Kiefer, *Aristotle's Theory of Knowledge*; Tuominen, *Apprehension and Argument*.

teach others, and even though I have no clear twelfth-century source for such an interpretation, there are several from the thirteenth century: the preface to Adelard version III of Euclid's *Elements*;¹⁹⁵ an anonymous commentary from about 1200 on the *Sophistical Refutations*;¹⁹⁶ and also in the thirteenth century an anonymous writer simply quoting a commentator ('Alexander') as saying that 'Aristotle taught how to demonstrate by himself demonstrating'.¹⁹⁷ There is evidence to the same effect in the glosses of some manuscripts containing the *Posterior Analytics*,¹⁹⁸ and parts of the Arabic tradition point in the same direction.¹⁹⁹ In the first extant Latin commentary on the *Posterior Analytics*, namely, Robert Grosseteste's, this twelfth-century tradition of both demonstrating and teaching how to demonstrate is incorporated with some finesse. It sums up, as it were, the earlier tradition, but the commentary also points the way to the extensive and equally impressive thirteenth-century analyses. The authors of the thirteenth century generally acknowledged Grosseteste's work as the original foundation of studies of the *Posterior Analytics*.²⁰⁰

John also regards the *Posterior Analytics* as the Aristotelian treatise on demonstration. However, as an Academician (at least by name), and having already treated the *Topics* as a work which produces a theory of how to obtain real knowledge, he is faced with some difficulties as regards the scientific value of the *Posterior Analytics* and of demonstration in general. For obviously the degree of precision is much higher in demonstration than in dialectic, and John states (on the authority of Burgundio of Pisa with whom he apparently agrees) that Aristotle came to be called simply 'the Philosopher' as a result of his theory of demonstration.²⁰¹

¹⁹⁵ See above p. 69 and n. 31.

¹⁹⁶ Anonymus Cantabrigiensis, *Commentarium in Aristotelis Sophisticos elenchos*: Cambridge, St John's, MS D.12, fol. 83^v (cited from a transcription made by Ebbesen): 'Sed demonstrativa dupliciter dicitur: cum ea quae docet demonstrare [demonstrativa MS] tum ea quae demonstrat' (We speak of the art of demonstration in two ways: as the one that teaches how to demonstrate and the one that demonstrates).

¹⁹⁷ 'Anonymus Cordubensis, *Questiones super primum librum Posteriorum*', ed. by Marmo, qu. 5, p. 134: 'Aristoteles demonstrando docuit demonstrare'.

¹⁹⁸ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 81–88.

¹⁹⁹ Al-Ghazālī, *Tractatus de logica*, IV, in 'Logica Algazelis', ed. by Lohr, p. 278: 'Utilitas autem demonstrationis est manifestatio veritatis et acquisitio certitudinis' (The usefulness of demonstration is that it manifests the truth and provides certainty).

²⁰⁰ On Grosseteste's commentary and the twelfth-century tradition, see Bloch, 'Robert Grosseteste's *Conclusiones*'; Van Dyke, 'An Aristotelian Theory'.

²⁰¹ See also Burnett, 'John of Salisbury and Aristotle', p. 23, n. 16 for a similar assessment of Aristotle found in an anonymous writer from Southern Italy.

The science of demonstrating had so great an authority with the Peripatetics that Aristotle, who excelled practically all other philosophers in all subjects, won the title of 'philosopher' for himself, because he gave us demonstration as a discipline, as if the name belonged to him by right, even though it is in fact a general title. For it is said that it was because of this that the name 'philosopher' was given to him. If there is anyone who does not believe me, let him accept instead the testimony of Burgundio of Pisa from whom I have this piece of information.²⁰²

Furthermore, in book II John says among other things that 'demonstrative logic has its strength in the principles of different disciplines, and goes on to the conclusions that stem from these. [...] It suits the philosophical majesty of those who teach correctly'.²⁰³ And in the section on the *Topics*, demonstrative science is treated vaguely as the ideal that is most often unattainable.²⁰⁴ But apart from the above quotation these are very general statements without direct reference to anything in the *Posterior Analytics*, and they are by far the most positive statements on demonstrative science in the entire *Metalogicon*. In the most important chapter on this issue John has other things to say:

The science/knowledge found in the *Posterior Analytics* is a subtle one and penetrable only for few intellects. There are evidently several reasons for this. First, the work contains the art of demonstration, and this art is more difficult than the other systems of argumentation. Second, this art has practically fallen into disuse as

²⁰² John of Salisbury, *Metalogicon*, ed. by Hall, IV.7, p. 145: 'Fuit autem apud Peripateticos tantae auctoritatis scientia demonstrandi, ut Aristoteles, qui alios fere omnes et fere in omnibus philosophos superabat, hinc commune nomen sibi quodam proprietatis iure vindicaret, quod demonstrativam tradiderat disciplinam. Ideo enim, ut aiunt, in ipso nomen philosophi sedit. Si mihi non creditur, audiatur vel Burgundio Pisanus, a quo istud accepi.' But elsewhere John says that Aristotle got the name simply by his preeminence in philosophy and, perhaps, logic in particular: John of Salisbury, *Metalogicon*, ed. by Hall, II.16, pp. 79–80. On an inconsistency concerning John's conception of Aristotle as a philosopher, see above pp. 106–107, n. 114. And see also John of Salisbury, *Policraticus*, ed. by Webb, II, p. 112 (bk VII, chap. 6), where it is stated that Aristotle is *the* Philosopher, just as Virgil is *the* Poet (*Poeta*), and *the* city (*urbs*) refers to Rome.

²⁰³ John of Salisbury, *Metalogicon*, ed. by Hall, II.3, p. 60: 'Sed demonstrativa a disciplinalibus viget principiis, et ad eorum consecutiva progreditur [...] Decet haec philosophicam recte docentium maiestatem.'

²⁰⁴ John of Salisbury, *Metalogicon*, ed. by Hall, III.9, pp. 129–30. Also in the twelfth century, Anonymus Aurelianensis III called demonstration 'the goal/end of logic as a whole' (*finis [...]* totius logicae): Orléans BM, MS 283, p. 178a and passim. The view probably stems from the Greeks, see Philoponus, *Analytica posteriora commentaria*, ed. by Wallies, 1.5–10, who might also be the source of Burgundio of Pisa's similar view (see the quotation p. 125 and n. 202), but it is also found in the Arabic tradition: Al-Fārābī, *Catálogo*, ed. by Palencia, II, p. 95; Al-Ghazālī, *Tractatus de logica*, IV, in 'Logica Algazelis', ed. by Lohr, p. 259.

a result of the rarity of practitioners, since the mathematicians are the only ones to use demonstration, and they too barely use it;²⁰⁵ even among them, it is used almost exclusively by the geometers. However, this discipline is not one that is frequently cultivated among us either, except perhaps in the Iberian region and in the confines of Africa. For these people, for the sake of astronomy, practise geometry more than other people. The same is true of the Egyptians and quite a few of the Arabic peoples. In addition to these observations, the book in which the demonstrative discipline is transmitted is much more confused than the others, both because of the transpositions of words and letters and the outdated examples that have been borrowed from different disciplines; and finally — which is not the author's fault — the work has been so much distorted by scribal errors that it contains almost as many obstacles, as it contains chapters. And actually, it is good when there are no *more* obstacles than chapters. Thus, many blame the translator for the difficulty and claim that the work has not been correctly translated.²⁰⁶

John's views on the *Posterior Analytics*, as they can be gathered from this passage, are not — *mutatis mutandis* — too different from the ones that many scholars of the twentieth century voiced. From the beginning of the thirteenth century, the treatise became the subject of great admiration and comprehensive studies. Similarly it received a much more favourable treatment in the second half of the twentieth century.²⁰⁷

²⁰⁵ All interpreters have so far taken *vix* in the sense of 'almost', but it really should mean 'barely'. This is contrary to John of Salisbury, *Metalogicon*, ed. by Hall, II.13, p. 76, in which passage John claims that demonstration is very efficient in mathematics. Apparently, John is simply, in the present passage, exaggerating his basic claim: that the *Posterior Analytics* is almost useless. He may well be influenced by different sources in the two relevant passages. Or perhaps he means that even in mathematics there are a number of non-demonstrative, dialectical elements (see below p. 138), but John does not elsewhere indicate familiarity with this kind of distinction.

²⁰⁶ John of Salisbury, *Metalogicon*, ed. by Hall, IV.6, p. 145: 'Posteriorum vero Analeticorum subtilis quidem scientia est, et paucis ingeniis pervia. Quod quidem ex causis pluribus evenire perspicuum est. Continet enim artem demonstrandi, quae prae ceteris rationibus disserendi ardua est. Deinde haec utentium raritate iam fere in desuetudinem abiit, eo quod demonstrationis usus vix apud solos mathematicos est, et in his fere apud geometras dumtaxat. Sed et huius quoque disciplinae non est celebris usus apud nos, nisi forte in tractu Hiberno, vel confinio Africae. Etenim gentes istae astronomiae causa, geometriam exercent prae ceteris. Similiter Aegyptus, et non nullae gentes Arabiae. Ad haec liber quo demonstrativa traditur disciplina ceteris longe turbator est, et transpositione sermonum, traiectione litterarum, desuetudine exemplorum, quae a diversis disciplinis mutuata sunt, et postremo quod non contingit auctorem, adeo scriptorum depravatus est vitio, ut fere quot capita tot obstacula habeat. Et bene quidem ubi non sunt obstacula capitibus plura. Unde a plerisque in interpretem difficultatis culpa refunditur, asserentibus librum ad nos non recte translatum.'

²⁰⁷ On both the negative and the positive views on the *Posterior Analytics* as found in modern times, see Aristotle, *Posterior Analytics*, trans. by Barnes, pp. vi–xv.

John's fundamental idea, based on the empirical evidence (that it is no longer in use) and his general scepticism, is that the treatise is impossible to use in any positive sense of the word except perhaps in the mathematical sciences. In natural science (including psychology), ethics, and political sciences it is more or less useless. Aristotle himself would not completely disagree. It is stupid and clear evidence of bad education to demand demonstration in ethics and political science.²⁰⁸ And concerning corruptible things, that is, the subject area of natural science, one can only speak of 'demonstration that is in some sense of the word accidental'.²⁰⁹ But this fact does not soften the criteria that one must respect as regards the principles of knowledge proper, and, in fact, Aristotle would claim that demonstrative science is possible in other disciplines than mathematics.²¹⁰ At least some Latin scholars of the twelfth century had a more 'Aristotelian' view on this issue than John,²¹¹ but neither was John the only one who thought demonstration belonged within mathematics.²¹²

Still, John has a basic problem with Aristotle's theory of demonstrative science, namely, that it is sometimes unclear, particularly in its views on first principles (Gr. *ἀρχαί*, Lat. *principia*). In an Aristotelian demonstration, these principles, that is, the premises of the argument, must be 'true, primary, immediate, and more

²⁰⁸ Aristotle, *Metaphysica*, II.3, 995a14–20; Aristotle, *Ethica Nicomachea*, I.3, 1094b12–13; I.3, 1094b23–28. Translations of the *Metaphysics* and the *Nicomachean Ethics* were not available to John.

²⁰⁹ Aristotle, *APo.*, trans. by Iacobi, I.8, 75b21–26, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, pp. 20–21: 'Manifestum est autem et si sint propositiones universales ex quibus est syllogismus, quod necesse est et conclusionem perpetuam esse huiusmodi demonstrationis, et simpliciter ut est dicere demonstrationis. Non est ergo demonstratio corruptibilium neque scientia simpliciter, sed sic est sicut secundum accidens, quia non universaliter ipsius est, sed aliquando et sic' (It is clear that if it is from universal principles that a deduction is made, the conclusion of such a demonstration must be eternal, that is a demonstration *simpliciter* so to speak. Therefore, there can be no demonstration of corruptible things, nor can there be knowledge *simpliciter*, but only 'by accident', because it does not hold of it universally, but only sometimes and in some particular way).

²¹⁰ In one passage John actually agrees that demonstrative science works in more than one discipline, but this would seem to be a lapse on his part: John of Salisbury, *Metalogicon*, ed. by Hall, II.3, p. 60: 'Sed demonstrativa a disciplinalibus viget principiis' (Demonstrative logic has its strength in the principles of different disciplines).

²¹¹ See, for example, Anonymus Cantabrigiensis, *Commentarium in Aristotelis Sophisticos elenchos*: Cambridge, St John's, MS D.12, fol. 83^v, where physics is described as a demonstrative science.

²¹² *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 16, p. 35.

known than, prior to and causes of the conclusion, for in this way they will be proper principles for that which is demonstrated.²¹³ How does one determine whether the principles that one is using are demonstrative or dialectical? That is, how does one determine the status of the premises of one's deductions in material logic? Aristotle gave no clear answer but seems to have relied upon, first, a general conception of the Greek *πίστις* as meaning 'belief' but at the same time signifying 'evidence',²¹⁴ and, second, the human faculty of 'mind' (Gr. *νοῦς*, Lat. *intellectus*).²¹⁵

As a result of his own views on the issues, John would find the Aristotelian view both philosophically and practically unsatisfactory,²¹⁶ and understandably so. Therefore it is also to be expected that he would have quite a few problems with the *Posterior Analytics* in general.

The text is treated in book IV of the *Metalogicon*, but the structure of the treatment is different from the treatments of *Categories*, *De interpretatione*, *Topics*, and *Prior Analytics*, which all precede his analysis of the *Posterior Analytics*.²¹⁷ John begins his investigations in Chapter 6 and is specifically concerned with the *Posterior Analytics* until, and including, Chapter 8, although the latter chapter is concerned with demonstration as such rather than with the treatise, as can be seen from the title and from my discussion below. Chapter 9 is obviously inspired by philosophical subjects discussed in the *Posterior Analytics*, but does not refer specifically to the text, and the same is true for Chapters 10–21. In Chapter 22, John turns to sophistry, and thus to his description and analysis of the *Sophistici elenchi*, which must mean that he has concluded his description and analysis of the *Posterior Analytics*. A list of (not authorial) titles of the relevant chapters reads as follows:

- Chapter 6: 'On the difficulty of the *Posterior Analytics*, and the reasons for it' (De difficultate Posteriorum analeticorum et unde contingat)

²¹³ Aristotle, *APo.*, trans. by Iacobi, I.2, 71b20–23, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 7: 'necesse est et demonstrativam scientiam ex verisque esse et primis et immediatis et notioribus et prioribus et causis conclusionis; sic enim erunt et principia propria ei quod demonstratur'.

²¹⁴ Aristotle, *APo.*, I.2, 72a25–b4, here used several times in the verbal form *πιστεύειν*; James of Venice's Latin translation has *credere*.

²¹⁵ Aristotle, *APo.*, II.19, 99b14–100b17. Of course, the entire issue is much more complicated than my brief statement indicates.

²¹⁶ On the medieval solution to this problem, see below 4.2.8.

²¹⁷ Noted also by Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 64 and 173, n. 27, with reference to the *Topics*.

- Chapter 7: ‘Why Aristotle has earned the title ‘The Philosopher’ *par excellence*’ (Quare Aristoteles nomen philosophi prae ceteris meruerit)
- Chapter 8: ‘On the function of demonstrative science, and from what sources and how demonstration occurs, and on the fact that perception is the principle of knowledge/science and how’ (De officio demonstrativae et ex quibus sit demonstratio et quomodo et quod sensus scientiae principium est et quomodo)
- Chapter 9: ‘What perception is, and how every kind of philosophy has its strength from this through imagination’ (Quid sensus et quomodo omnis philosophiae species ex ipso conualescat per imaginationem)
- Chapter 10: ‘On imagination and the fact that it is from this that the affections by which the soul is in an ordered state or, when it is disturbed, is cast into confusion’ (De imaginatione et quod ex ipsa oriuntur affectiones quibus anima componitur aut turbata deturpatur)
- Chapter 11: ‘What imagination is, and remarks on opinion and on mistakes in opinion and perception, and on the origin of *fronesis*, which we call prudence’ (Quid imaginatio et de opinione et de fallacia opinionis et sensus et de ortu fronesis quam nos prudentiam nominamus)
- Chapter 12: ‘What prudence is, what its subject matter is, what its parts are, and how knowledge/science originates from perception’ (Quid prudentia quae materia eius quae partes et quomodo scientia ex sensu)
- Chapter 13: ‘On the difference between knowledge/science and wisdom; and what is faith’ (De differentia scientiae et sapientiae, quid fides)²¹⁸
- Chapter 14: ‘On the relationship between *fronesis* [prudence] and *alitia* [truth], and on the origin of *fronesis*, and what is reason’ (De cognatione fronesis et alitiae et de ortu fronesis et quid ratio)
- Chapter 15: ‘Further about what reason is and the fact that the word ‘reason’ has several meanings, and that reasons are everlasting’ (Item quid ratio et quod nomen rationis multiplex est et quod rationes sempiternae)
- Chapter 16: ‘A distinction of the various meanings, and the fact that animals do not have reason, even though they seem to judge things, and from where human beings obtained reason according to the Hebrews’ (Distinctio multipliciter et quod bruta non habent rationem et si discernere videantur et unde homo eam sortitus sit iuxta Hebraeos)

²¹⁸ On this, compare John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 311–24, p. 127.

- Chapter 17: 'On the function of reason, and why the senses over which reason presides are found in the head, and who are the handmaids of Philology' (De officio rationis et quare sensus in capite quibus ratio praesidet et quas pedissequas habeat Philologia)
- Chapter 18: 'On the difference between reason and intellect, and what is intellect' (De differentia rationis et intellectus et quid intellectus)
- Chapter 19: 'What is wisdom, and the fact that through grace it originates from perception' (Quid sapientia et quod ipsa de sensu per gratiam)
- Chapter 20: 'On the cognition, the simplicity and the immortality of the soul, according to Cicero' (De cognitione animae et de simplicitate et immortalitate secundum Ciceronem)
- Chapter 21: 'On the fact that Aristotle has sowed the seeds for hypothetical arguments, even though he has not treated it exhaustively in the preceding books' (Quod in praecedentibus et si non sufficienter Aristoteles aliquod hypotheticarum seminium dedit)

As is clear already from this list, Chapters 6–8 of the book are the ones most specifically concerned with demonstration and/or the *Posterior Analytics* and its contents. Chapter 6 has been cited above,²¹⁹ and its sole purpose is to inform the reader that the *Posterior Analytics* is relevant primarily to mathematicians, and in particular to geometers. It contains no information about the contents of the treatise. Chapter 7²²⁰ somewhat surprisingly argues that demonstration was the science most highly esteemed by Peripatetics and that Aristotle was called 'the Philosopher' because he invented demonstrative science — and this he did, of course, in the *Posterior Analytics*. Demonstration drives away the shadows of ignorance and provides the man who knows it with fundamental knowledge. Even the Academic sceptics, including John, have often been brought from darkness to the light of understanding by this discipline.²²¹ Perhaps this is not a contradiction,²²² but the statements in Chapters 6 and 7 leave the reader wondering what the precise value of the *Posterior Analytics* was, according to John. One might already at this point suspect that John does not really know

²¹⁹ John of Salisbury, *Metalogicon*, ed. by Hall, iv.6, p. 145. See above pp. 125–126, n. 206.

²²⁰ John of Salisbury, *Metalogicon*, ed. by Hall, iv.7, pp. 145–46.

²²¹ John of Salisbury, *Metalogicon*, ed. by Hall, iv.7, p. 145: 'Et quoniam haec ignorantiae tenebras pellit facitque quadam praenoscendi praerogativa scientem, sectam Academicorum quam in his quae sapienti dubitabilia sunt profitemur, de caligine sua frequenter educit in lucem.'

²²² As Grellard points out to me, only the extreme sceptics would vehemently oppose such a view.

much about demonstrative science but has just collected some very general facts about it.

Chapter 8 is, or so one would think, John's reading of the *Posterior Analytics*. For it constitutes his only description and analysis of demonstrative science, and a few quotations from the text are also found in the course of the chapter. However, the chapter is messy, to say the least, and it does not in any true sense of the word describe the contents of the *Posterior Analytics*.²²³

Chapters 9–21 are equally confusing; their connection with the *Posterior Analytics* and demonstration is at best peripheral. Chapter 9 is occasioned by the statement in Chapter 8 that perception is the basis of science, and Chapter 10 takes its cue from the comment that perceptions are used along with ('through') imagination as the foundation of human knowledge. This takes John into discussions of 'opinion' and 'prudence' (Chapter 11). The mention of prudence causes him to write a chapter on its activities (Chapter 12), and by similar associations he is carried even further away from the analysis of demonstrative science, as is clear from the list above. Thus, in contrast to John's analyses of the other Aristotelian treatises, there are in the *Metalogicon* no true descriptions or analyses of the *Posterior Analytics*, only general statements.

In order to establish how John conceived demonstrative science, we shall return to Chapter 8 and the treatment proper of demonstrative science. John begins by describing the process of demonstration as follows:

One must have prior knowledge of the principles, and from these one must gather the sequence of truths by coherent reasoning based on necessity; and one must progress by working very hard to place the argument on solid ground, so to speak, in order that the lack of necessity would not result in the appearance of a gap in the argument, a gap, which would jeopardize the otherwise resulting demonstrative knowledge. Certainly, not every science/knowledge is demonstrative, but only those that are based on true, primary and immediate principles. For just as not every deduction is a demonstration but every demonstration is a deduction, so also knowledge/science comprises the demonstrative but not conversely.²²⁴

²²³ See McGarry, in John of Salisbury, *Metalogicon*, trans. by McGarry, p. 214, n. 79, who believes that it describes 'the contents of Aristotle's *An. Post.*, i, although he [John of Salisbury] does not always follow Aristotle's order.'

²²⁴ John of Salisbury, *Metalogicon*, ed. by Hall, iv.8, p. 146: 'Necesse enim est disciplinarum praenoscere principia, et ex his ex necessitate verorum sequelam colligere consertis rationibus, et ut sic dixerim calcatus urgendo nequis quasi ex defectu necessitatis videatur hiatus, qui demonstrativae scientiae praeiudicium afferat. Non utique omnis scientia demonstrativa est, sed illa dumtaxat quae ex veris et primis est et immediatis. Nam sicut non omnis syllogismus

The text is compressed and difficult, but the general idea is clear. Demonstration is based on certain knowledge of fundamental principles from which *necessary* deductions can be made. That is, the deductions must allow for no exception and the argument must be necessary in the sense that no contrary, or even apparently contrary, conclusions can in any way be reached. To ensure that the conclusions meet these requirements, one must continually try to fortify and emend the argument so that no ‘gaps’ (*hiatus*) can be found and attacked in the argument. This, according to John, is the demonstrative procedure, and it is *a* science but not science *per se*.

At first sight, this description is thoroughly Aristotelian. In fact, the process of solidifying one’s argument may even look like a way to secure the kind of premises that J. Hintikka has called ‘premises about atomic connections’, that is, premises that are connected in such ways that no terms or premises can be inserted between them.²²⁵ One might think that this is exactly what John aims at: making sure that the premises cohere to the extent that no more are needed or even permissible.

However, there is one major difference between John and Aristotle (even Hintikka’s Aristotle): John’s method is basically dialectical, not demonstrative in Aristotle’s sense. When one proceeds by continually strengthening and emending the argument, there must have been something wrong with it beforehand. It must have contained weaknesses, perhaps it was even flawed. But then it was *not* demonstrative in the first place. John’s mind is simply too occupied by dialectical argument to distinguish demonstrative science from it with the required precision. Furthermore, he claims without any textual support that dialectic is of great benefit in demonstrations.²²⁶

Even when John is trying to distinguish demonstration and dialectic, he notably uses the term ‘place’ (*locus*) to apply to both disciplines; the difference is simply that ‘not every “place” is suitable for a person who is demonstrating’, but some are.²²⁷ By distinguishing less rigidly between demonstration and dialectic than Aristotle did, John seems to be in accordance with many of his contemporaries, and perhaps also the tradition of the preceding centuries. There

demonstratio, sed omnis demonstratio syllogismus est, sic demonstrativam scientia inconvertibiliter ambit.’

²²⁵ Hintikka, ‘On the Ingredients of an Aristotelian Science’, pp. 55–69.

²²⁶ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119.

²²⁷ John of Salisbury, *Metalogicon*, ed. by Hall, IV.8, p. 146: ‘non omnis locus demonstratori commodus est’. See also Cicero, *Topica*, § 25.

certainly is a lot of evidence to confirm that elements which Aristotle would carefully distinguish in demonstration and dialectic were not similarly separated in the twelfth century.²²⁸ Since this is an important point, I will digress in order to illustrate it.

First, as regards *loci*, it may be interesting to note that already Abbo of Fleury (c. 945–1004) claims that *loci* are somehow closely related to definitions, that is, to one kind of basic principles as specified by demonstrative science. This view seems to have disappeared before the twelfth century, and it is, of course, doubtful whether Abbo knew anything about demonstration as such. Still, we do have evidence from St Gall of a very early, and rather limited, conception of demonstration: the *Posterior Analytics*, it is said, is concerned with the kind of logic called *apodictica*, which treats inferences that are necessarily true. As Green-Pedersen points out, the St Gall texts have simply misunderstood Boethius's statement that the syllogism is treated generally in the *Prior Analytics*, and that its two species are treated in the *Posterior Analytics* and the *Topics* respectively.²²⁹ The authors of the St Gall texts apparently think that the species refer to the categorical syllogism, which is therefore said to be treated in the former Aristotelian work, and the hypothetical syllogism, which is supposed to have been treated in the latter work. Despite this immense misunderstanding, they do know that demonstration (*apodictica*) is a kind of syllogism that is concerned with necessary and true arguments. Furthermore, Abbo of Fleury is evidence that basic issues that were later to be important in distinguishing between demonstration and dialectic had been recognized long ago. In particular, the status of *loci* as basic principles that cannot be proven or rationally confirmed is taken for granted, and he explicitly connects the *loci* with definitions.²³⁰

Quite a few other important points can be made on the basis of twelfth-century thinkers. In the *Tractatus De locis argumentationum* the author emphasizes that some *loci* 'provide the argumentation with necessity' (*necessitatem praestant argumentationi*), which was not an uncommon view in the twelfth century.²³¹ Abelard's *Dialectica* is full of similar combinations of necessity and possibility, and he was probably more aware of the difference than most.²³² And in general there

²²⁸ In addition to the following, see Green-Pedersen, *The Tradition of the Topics*, pp. 213–14.

²²⁹ Green-Pedersen, *The Tradition of the Topics*, pp. 139–43, with references.

²³⁰ Green-Pedersen, *The Tradition of the Topics*, pp. 144–45.

²³¹ Anonymus, *De locis argumentationum*, 5, in 'Instantiae', ed. by Iwakuma, p. 15.

²³² See, in particular, Peter Abelard, *Dialectica*, ed. by De Rijk, III.1, pp. 271–72.

was, of course, a tradition in which ‘probables’ (*probabilia*) were acknowledged to be either ‘necessary’ (*necessaria*) or ‘not necessary’ (*non necessaria*), that is, future contingents.²³³ Obviously, there is a very short distance from ‘argumentation with necessity’ to ‘demonstration’, which is after all based primarily on the necessity involved in the principles and the conclusions. The author of the *De locis argumentationum* also explains that there are two kinds of induction: necessary and probable, and the dialectician uses the kind that is necessary.²³⁴ In a similar vein, Anonymus Aurelianensis II in his *De parallogismis* informs us that necessary and unambiguous propositions may still result in a parallogism if the syllogism is not properly handled.²³⁵ And finally, rhetorical theory may have played a part in eliminating the borders between demonstration and other kinds of investigations and arguments. Certainly, rhetoric is closely related to dialectical procedures, both disciplines being contained under the heading ‘probable’, but ‘necessity’ also plays a large role in rhetorical theory.²³⁶

Of course, Aristotle himself is not blind to the obvious difficulties in separating completely demonstration and dialectic, but at least it is clear that dialectic cannot be part of the process, if one wants to obtain a necessary and scientific deduction. For the argument must not in any part rely on probability, which is the subject area of dialectic. According to Aristotle, dialectic can be used *against someone else* to show that their deductions are not demonstrative, but that is something completely different.²³⁷

Equally importantly, twelfth-century scholars knew another Aristotelian text, the *Sophistici elenchi*, much better than they knew the *Posterior Analytics*, and demonstration is also treated briefly in the former work in Chapter 2.²³⁸ Here Aristotle says that there are four kinds of ‘discussions’ (*disputationes*; Boethius’s rendering of the Greek *τὸ διαλέγεσθαι*), one of which is the ‘doctrinal’ (*doctrinalis*), and at the end of the chapter this kind is apparently defined as the demonstrative

²³³ For the terminology, see, for example, ‘An Early Commentary on Boethius’ *De topicis differentiis*, ed. by Hansen, I.7, p. 91; Clarembald of Arras, *Expositio super librum Boetii De hebdomadibus*, I.1, in Clarembald of Arras, *Life and Works*, ed. by Häring, p. 189.

²³⁴ Anonymus, *De locis argumentationum*, 2.1–2, in ‘*Instantiae*’, ed. by Iwakuma, p. 12.

²³⁵ Anonymus Aurelianensis II, *De parallogismis*, in ‘Anonymus Aurelianensis II’, ed. by Ebbesen, pp. 21–22.

²³⁶ Cicero, *De inventione*, II.57–58.170–75; Quintilian, *Institutio oratoria*, III.8.22–25. And from the twelfth century, for example, Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 52.

²³⁷ Aristotle, *APo.*, I.4, 73a28–34; I.6, 74b18–21.

²³⁸ Aristotle, *Sophistici elenchi*, 2, 165a38–b11.

form. However, a discussion proper is conducted between *two* persons, and thus includes all the errors and pitfalls found in man's work. This does not fit strict demonstration, and it was a problem noticed by some interpreters of the *Elenchi*.²³⁹ Still, by defining demonstration as a kind of discussion, the passage was almost certain to distort understanding of demonstrative science. That is, demonstration was made extremely similar to dialectic. It seems very likely that the reading of the *Sophistici elenchi* influenced twelfth-century views on demonstration, and John is likely to have received such influence.

To me all these features strongly indicate that John had a very different understanding of the nature of demonstrative science from that which most readers of the *Posterior Analytics* had. The last sentence of the passage quoted above indicates that he would insist that other roads to knowledge would work as well as demonstration. It must be noted, however, that John is, at least partly, hindered by the Latin translation and by a number of established traditions and authorities.

In particular, it may prove important that *demonstrare* is used to translate not only the Greek technical term ἀποδεικνύναι, but also the less technical words δεικνύναι, ἀποδιδόναι, δηλοῦν, and ἐπιδεικνύναι.²⁴⁰ It was also a 'problem' in authoritative authors that relevant Latin terms had non-technical meanings.²⁴¹ The term 'demonstration' (in a broad sense of the word) may also be found in Cicero's work as something that follows from the use of *loci*.²⁴² Similarly, Boethius's 'maximal proposition' (*maxima propositio*), defined as a *locus*, has the characteristics of the demonstrative principles described by Aristotle.²⁴³ An anonymous author of a commentary on Boethius goes as far as to state that *loci* and maxims, being axioms on his interpretation, do not belong to dialectic but to doctrinal discussion.²⁴⁴ Also, Boethius combines 'necessary' (*necessarium*) and 'probable' (*probabile*) by dividing 'arguments' (*argumenta*) into four kinds: 'probable and necessary', 'probable and not necessary', 'necessary and not probable', and 'not probable and not necessary'.²⁴⁵

²³⁹ For example, by Anonymus Cantabrigiensis, *Commentarium in Aristotelis Sophisticos elenchos*: Cambridge, St John's, MS D.12, fol. 82^v and passim.

²⁴⁰ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 31, 36, and 169, n. 97, for documentation.

²⁴¹ See, for example, Boethius, *De topicis differentiis*, ed. by Nikitas, II.6, p. 30.

²⁴² Cicero, *Topica*, § 25.

²⁴³ Boethius, *De topicis differentiis*, ed. by Nikitas, II.3, pp. 26–27. For the twelfth-century works, see, for example, Peter Abelard, *Dialectica*, ed. by De Rijk, III.1, pp. 309–10.

²⁴⁴ See Green-Pedersen, *The Tradition of the Topics*, p. 213.

²⁴⁵ Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, p. 16. The view was apparently standard in pre-*Logica nova* handbooks. See, for example, Garlandus Compotista, *Dialectica*, ed. by De Rijk, IV, pp. 92–94, who attributes the 'necessary and probable' ones to the dialecticians.

His definition of ‘necessary’ as ‘that which is in a particular way and cannot be otherwise’ distinguishes it clearly from ‘probable.’²⁴⁶ But importantly, and strangely, Abelard in his definition says that ‘necessary’ is ‘that which *seems* to be in a particular way and cannot be otherwise’ (my italics).²⁴⁷ Boethius’s description of the geometrical procedures by which one makes the theorems believable by providing a prior demonstration may also have inspired John.²⁴⁸

Furthermore, at least in parts of the Arabic tradition (Al-Ghazālī) the demonstrative propositions are said in the Latin translation to be ‘true, credible, causing no hesitation and no deception.’²⁴⁹ The term ‘credible’ (*credibilis*) is perhaps surprising in this context; for at least in some Latin authors ‘credible’ was not always very different from ‘probable.’²⁵⁰ But it must be noted that, as a parallel to the Greek *πίστις*, ‘credible’ is more acceptable in demonstrative contexts than ‘probable’ (*probabilis*). And in any case, the Latins had other sources on this issue. A definition of the demonstrative syllogism, which is originally Philoponus’s clarification of the original Aristotelian description (but in the Latin West usually attributed to ‘Alexander’), states that this kind of syllogism should not only produce knowledge, but it should do so based on premises that are ‘*per se* credible and certain.’²⁵¹ Furthermore, the Latin Al-Ghazālī posits ‘credibility’ (*credulitas*) as basic and immediate understanding of propositions.²⁵²

²⁴⁶ Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, p. 16: ‘Necessarium vero est quod, ut dicitur, ita est atque aliter esse non potest.’

²⁴⁷ Peter Abelard, *Dialectica*, ed. by De Rijk, III.2, p. 460: ‘Necessarium autem definit quod videtur ita esse atque aliter esse non potest.’ On the next page (p. 461), he strangely refers to Boethius’s definition with the correct wording. Perhaps it is relevant that Abelard does so in a context in which he criticizes those who ‘adhere too much to the words of an authority’ (qui verbis auctoritatis nimis adherents).

²⁴⁸ Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, pp. 16–18.

²⁴⁹ Al-Ghazālī, *Tractatus de logica*, IV, in ‘Logica Algazelis’, ed. by Lohr, p. 273: ‘Primum ordinem [scil. propositionum] habet illa quae est vera, credibilis, sine dubietate et sine deceptione. Et argumentatio composita ex talibus dicitur demonstrativa.’

²⁵⁰ See, for example, Anonymus Cantabrigiensis, *Commentarium in Aristotelis Sophisticos elenchos*: Cambridge, St John’s, MS D.12, fol. 82^v, where the author states that dialectic strives for ‘credibility’ (*credulitas*).

²⁵¹ Cited, for example, by Anonymus Cantabrigiensis, *Commentarium in Aristotelis Sophisticos elenchos*: Cambridge, St John’s, MS D.12, fol. 82^v: ‘Demonstrativus syllogismus est syllogismus faciens scire ex per se credibilibus et certis rationibus receptus.’ See also Philoponus, *Analytica posteriora commentaria*, ed. by Wallies, 3.1–2: ‘ἀπόδειξις τοίνυν ἐστὶ συλλογισμὸς ἐπιστημονικὸς ἐξ αὐτοπίστων καὶ ὁμολογουμένων λόγων λαμβανόμενος.’

²⁵² Al-Ghazālī, *Tractatus de logica*, prooemium, in ‘Logica Algazelis’, ed. by Lohr, pp. 239–41. See also Peter of Poitiers, *Die Zwettler Summe*, ed. by Häring, I.13, p. 28: ‘Credere autem

'Alexander's' view was apparently widely known in the twelfth century, and although Al-Ghazali's works were hardly available to John, and although the entire question of Arabic influence in the earlier part of the twelfth century is very difficult as regards logic, it is at least possible that some views from these scholars were transmitted to the Latin West.²⁵³ It is noteworthy that not too many years later, Alexander Neckham may have been under the influence of the Arabic tradition in using *quale est* instead of the usual *quia* in his analysis of Aristotle's *τὸ ὅτι*.²⁵⁴ And finally, John's views on demonstration seem also to have parallels, albeit not exact ones, in some of his teachers and scholars of the mid-twelfth century. William of Conches has the following remark on his own procedures in examining 'the things that are and are seen':

Before we start to say something about this topic [*scil.* the sensibles], we ask that if, while talking about the visible things, we should say something probable but not necessary, or something necessary but not probable, we should not be blamed for this. For it is as philosophers that we posit what is necessary, even though it is not probable, while it is as physicists that we add what is probable, even though it is not necessary.²⁵⁵

At approximately the same time, Hermann of Carinthia tells us that speculation, or theorizing, can be divided into three: (1) composition, which is a mixture of the constituent causes of things; (2) disposition, which is an ordered arrangement of that which has been mixed so as actually to produce these things; (3) the cause that is the basis of the entire procedure and governs both of the preceding steps. Reason (*ratio*), he says, is concerned with composition, demonstration has disposition as its subject, and intuitive cognition (*intellectus*) deals with the governing cause. He further specifies that reason strives for probability, demonstration for necessity, and intuitive cognition recognizes principles.²⁵⁶ Previously he has

secundum diversos ponitur usus. Dicitur enim credere pro putare, pro scire, pro spontanea veritatis incommutabilis et indemonstrabilis assensione' (To 'believe' (*credere*) has different uses. For it can be used in place of 'mean', in place of 'know' and in place of 'spontaneous assent to immutable and indemonstrable truth').

²⁵³ See above 2.3.

²⁵⁴ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 68, 76.

²⁵⁵ Guillaume de Conches, *Philosophia mundi*, ed. by Maurach, xxii, p. 18: 'Sed antequam initium dicendi faciamus, petimus, ut si loquentes de visibilibus, probabile et non necessarium dicamus, vel necessarium et non probabile, non inde vituperemur: ut philosophi enim necessarium, etsi non probabile ponimus, ut physici vero probabile, etsi non necessarium adiungimus.'

²⁵⁶ Hermann of Carinthia, *De essentiis*, ed. by Burnett, II, p. 180: 'Tripartita est omnis speculationis modus: in rerum compositione et dispositione causaque utrumque moderante.

informed us that, according to his methodology, reason comes first, then follows what demonstration can provide.²⁵⁷ It is clear, then, that demonstration works on the material provided by dialectic, and it is necessary to go beyond the latter.

William and Hermann do not actually and explicitly make a single discipline of dialectical and demonstration, but they are very clear that the distinction is not easily made, and that both methods can be used side-by-side in a philosophical/scientific analysis.²⁵⁸ Also, Gilbert of Poitiers seems willing to say that the predicate 'probable' is reasonably applied to arguments that cannot be refuted, thus clearly indicating that he is not using a technical, Aristotelian vocabulary.²⁵⁹

Finally, but very importantly, even the most clearly demonstrative branch of knowledge, mathematics, could be regarded as containing dialectical features.²⁶⁰ For instance, in the 'Coventry Introduction' the author distinguishes between a demonstrative kind (exemplified by Euclid) and a probable kind (exemplified by the Boethian work on arithmetic).²⁶¹ And, even more importantly, the Euclidean versions of the twelfth century contain numerous references to opponents (*adversarii*) who make objections to the demonstrations.²⁶² From the perspective of ideal

Compositio est causarum constituentium commixtio; dispositio commixtorum ordinata habitudo [...]. Accedit igitur ad compositionem ratio, ad dispositionem demonstratio, ad causam moderatricem intellectus; ratio quidem probabilitate contenta, demonstratio necessitate nitens, intellectus simplici quadam et mera conceptione fidens' (The matter of every speculation can be divided into three: the composition of things, the disposition, and the cause that governs both. Composition is the mixture of constituent causes; disposition is the ordered arrangement of that which have been mixed [...]. Reason is concerned with composition, demonstration with disposition, intellect with the controlling cause; reason is content with probability, demonstration relies on necessity, intellect trusts in a certain simple and unmixed intuitive conception).

²⁵⁷ Hermann of Carinthia, *De essentiis*, ed. by Burnett, I, p. 138.

²⁵⁸ Burnett, 'Scientific Speculations', has provided many of the above examples.

²⁵⁹ Gilbert of Poitiers, *Expositio in Boecii librum primum De trinitate*, I.1.1.prologus, in Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring, p. 53: 'Quid autem probabilius eo quod cum inexpugnabilibus rationibus constet?' (What is more probable than that which is decided by impregnable arguments?). William of Conches defines *inexpugnabilis ratio* as *necessaria ratio*: Guillaume de Conches, *Glosae super Platonem*, ed. by Jeaneau, XLVII, p. 84.

²⁶⁰ I owe this observation, and the relevant references, to Burnett.

²⁶¹ *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 24, p. 36: 'Species eius duae sunt. Est enim quaedam demonstrativa quam docet Euclides in .vii. et .viii. et .ix. volumine artis geometricae; alia est probabilis quam digessit Nichomachus' (This art has two species. For there is one that is demonstrative, which is that taught by Euclid in books 7–9 of the art of geometry; and there is another that is probable, which Nicomachus has laid out).

²⁶² On this, see, in particular, Knorr, 'Falsigraphus vs. Adversarius'.

demonstrative methodology, this is an impossibility, if the term 'demonstration' is still to be applied.

Returning to John's own treatment of the matter, the rest of Chapter 8 is concerned primarily with the nature of the principles and how to obtain them. One must, he says, 'have prior knowledge of the principles', and from these principles certain deductions can be made. The word that has been translated 'to have prior knowledge' (*praenosse*) is here ambiguous. In McGarry's translation it becomes 'to know (beforehand)', but if this is correct, John is simply stating a rather obvious fact — for one cannot deduce anything, if one does not know the principles from which to deduce. Therefore, 'to have prior knowledge' probably indicates not only 'knowledge obtained beforehand' but also 'more certain and fundamental knowledge',²⁶³ which would also be in accordance with Aristotle's view that one must know the principles better than the conclusions.²⁶⁴ The principles of science, John says using a well-known Aristotelian distinction,²⁶⁵ require induction (*inductio*) to work on perceivable objects which are better known to us (*ad nos*), whereas the common concepts of the mind (*communes conceptiones animi*; the basic concepts), are better known by nature (*natura*). The latter are the true principles of scientific deductions.²⁶⁶ In obtaining knowledge, human beings perceive the surroundings and use the resulting impressions to establish universals by induction. These immediately evident universals for which no proof can be given (*propositiones immediatae*) are thereafter used to make scientific deductions. This may all be in accordance with general demonstrative theory, but John's description and analyses leave some questions unanswered.

First, it is not at all clear how to separate truly demonstrative principles from non-demonstrative, that is, dialectical, rhetorical, or even sophistic premises. John has nothing to say about this problem. He comments only on the process

²⁶³ For a similar use of *praenosco*, see John of Salisbury, *Metalogicon*, ed. by Hall, iv.7, p. 145.

²⁶⁴ See, in particular, Aristotle, *APo.*, i.2, 72a25–b4.

²⁶⁵ Aristotle, *APo.*, i.2, 71b33–72a5. The distinction is found frequently throughout Aristotle's works.

²⁶⁶ John of Salisbury, *Metalogicon*, ed. by Hall, iv.8, p. 146: 'Communes itaque conceptiones animi praecedunt, deinde per se nota, et ex his demonstrativa exoritur. Refert autem in his quae nota sunt, an natura, an ad nos notiora sint. Nam proxima sensui notiora nobis, remotiora vero utpote universalia simpliciter et naturaliter notiora' ('The common conceptions of the mind precede, then come the objects that are known *per se*, and from these arises demonstrative knowledge. But concerning known objects, it makes a difference whether they are better known by nature or better known to us. For those that are nearer to sense experience are better known to us, whereas those that are further removed from it, like universals, are better known *simpliciter* and by nature').

of deduction from principles, and his comments are brief and superficial. One may have perceived objects and established the relevant universals, but the only clue in John's text as to how to proceed from there in ways that are demonstrative, not dialectical or rhetorical, is that one must progress on a necessary basis (*ex necessitate*), and the principles must be true, primary and immediate. But it is unclear what 'necessary', 'true', 'primary', and 'immediate' mean in the context of principles, and how one comes to know that one's principles possess these qualities. John could have found, if not clear answers, then at least many analyses of the problem in Aristotle's *Posterior Analytics*.²⁶⁷

The *Policraticus* actually contains a discussion of principles.²⁶⁸ In this part of the work, John distinguishes three kinds of principles: sensible, rational, and religious (the ones based on faith). There is no mention of the distinction between demonstration and dialectic, and the entire passage seems to have been written because John wants to stress that one must make some assumption 'in all philosophical disciplines' (*in omnibus philosophicis disciplinis*). Still, one might try to use the passage to explain the differences. If one were to argue that only the rational principles conform to the standard of demonstrative necessity, and if mathematics is *the* rational science, then demonstration belongs within this discipline. In contrast, dialectic, which is then based on sensible principles, deals with natural philosophy/science. I suppose that something like this could be John's intention in the parts of his works where he most explicitly limits the role of demonstration. However, rational principles are not *per se* necessary if this is to mean that their content must always hold; some kind of further qualification must be made. For it would be very odd to claim that dialectic only uses sensible principles, never rational ones. Nonetheless, if dialectic also employs rational principles, the nature of the distinction between demonstrative and dialectical principles remains unclear. Thus, the passage from the *Policraticus* does not help one to clarify the differences between demonstrative and dialectical principles.

Second, it is somewhat ironic that John's use of the Aristotelian distinction between 'clear by nature' and 'clear to us' is itself unclear. Having just said that the universals precede, he uses the distinction to show that particulars (sense objects) are in some sense primary and the necessary precondition of universal knowledge. Again, this seems like a bit of Aristotelianism but without the proper context.²⁶⁹

Thus, in book IV, Chapter 8, of the *Metalogicon*, John believes that he has established (1) the nature, purpose, and procedure of demonstrative deductions,

²⁶⁷ In particular, Aristotle, *APo.*, I.2–6, 71b9–75a37.

²⁶⁸ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 114–17 (bk VII, chap. 7).

²⁶⁹ Compare Aristotle, *APo.*, I.2, 71b33–72a5.

and (2) the nature of principles and how to obtain them. In addition he informs us that demonstrative logic is primarily concerned with 'judgement', although it also contributes to 'discovery',²⁷⁰ and his descriptions of what demonstrative logic teaches us are superficial and to some extent overlap the more thorough descriptions and analyses of the teachings of dialectical logic.²⁷¹ But, as we have seen, number 1 seems to be based, at least to some extent, on misunderstandings and confusions, and number 2 is also a somewhat confused description. In fact, if one accepts John's analyses, it becomes difficult to understand why demonstration should not be *the* scientific method instead of dialectic. A method that works by establishing as far as possible the truth of the principles and the necessity of the connections between the individual principles, and thereafter works hard to fill all gaps in the argument, would on all accounts seem to be better than the dialectical method that John has previously described. I conclude that John's interests and sources of demonstrative science did not enable him to evaluate it with a high degree of accuracy.

4.2.5. *Metalogicon* IV.6 and the *Posterior Analytics*

John's peculiar understanding of demonstrative science and his limited knowledge of the *Posterior Analytics* are puzzling, and so is his general treatment of the text, since it differs greatly from the procedures he employs when analysing the other texts of the *Organon*. An explanation is that John did not actually read the *Posterior Analytics*, certainly not after 1147/8, and he probably never carefully studied the entire text. This is not to say that he did not have access to it; for reasons that will become obvious, I am convinced that he had, but he simply did not use it.

If we return for a moment to the important Chapter 6 of book IV of the *Metalogicon*,²⁷² it contains a number of strange claims that should not go unnoticed:

1. Demonstration has fallen into disuse
2. It is used only by mathematicians, and particularly by geometers
3. Geometry has also fallen into disuse in the Latin West

²⁷⁰ On 'judgement' and 'discovery', see above 3.1.4.

²⁷¹ Compare John of Salisbury, *Metalogicon*, ed. by Hall, IV.8, pp. 146–47 with the descriptions above 4.2.3.

²⁷² John of Salisbury, *Metalogicon*, ed. by Hall, IV.6, p. 145. The passage has been cited above pp. 125–26 and n. 206.

Furthermore, the passage specifies a number of additional points that, according to John, make the *Posterior Analytics* intractable:

- i. The work is much more difficult than the other Aristotelian treatises
 - a. The text itself is extremely difficult
 - b. The examples are outdated
- ii. The transmitted text is extremely corrupt
- iii. The translator (James of Venice) may not have done a very good job

Considering John's adherence to Ciceronian Academic Scepticism, one would expect some reservations regarding demonstrative science. Still, his criticism is not completely fair.

ad 1: Whether John is saying that demonstration has fallen into disuse *simpliciter* or more specifically among the Latins, it is not true that demonstration was not used in the twelfth century. Even if one disregards the mathematical studies, which, as we shall see below in the answer to number 3, is not actually permissible, some of the most important non-mathematical works of the century were based on demonstrative science. Boethius's *De hebdomadibus*, explicitly based on mathematical (demonstrative) methods,²⁷³ attracted much attention at the middle of the twelfth century, not least among a number of John's most esteemed teachers such as Thierry of Chartres and Gilbert of Poitiers.²⁷⁴ Even though the word 'demonstration' is not used, there is evidence to show that the twelfth century regarded this kind of method as a basic procedure of mathematics.²⁷⁵ Also, it is evident from the activities of the second half of the century that demonstrative procedures of different kinds were well established. The *Liber de causis*, in which theorems were purportedly deduced directly from a single axiom, is exemplary in this respect.²⁷⁶ And there are other texts that stress

²⁷³ Boethius, *De consolazione*, ed. by Moreschini, p. 187: 'Ut igitur in mathematica fieri solet ceterisque etiam disciplinis, praeposui terminos regulasque quibus cuncta quae sequuntur efficiantur' (I have followed the procedure of mathematics and the related disciplines and posited terms and rules by which I shall bring about all that follows from them).

²⁷⁴ Editions of their commentaries in Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring, of Thierry of Chartres in *Commentaries on Boethius*, ed. by Häring; and see also Clarembald of Arras's commentary, in Clarembald of Arras, *Life and Works*, ed. by Häring.

²⁷⁵ For example, Henry Aristippus's preface to Plato, *Phaedo*, trans. by Aristippus, p. 89; *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 24, p. 36. On this issue, see also Burnett, 'Scientific Speculations'. In the early thirteenth century, the connection between mathematical and demonstrative method was often made.

²⁷⁶ Edition: '*Le Liber de causis*', ed. by Pattin. See also Lohr, 'The Pseudo-Aristotelian *Liber*

that there must be *one* principle, although they are, of course, mostly concerned with creation.²⁷⁷ Naturally, this approach would appeal to Christian authors. Furthermore, twelfth-century works in theology by Alan of Lille (*Regulae caelestis iuris*)²⁷⁸ and Nicholas of Amiens (*Ars fidei Catholicae*)²⁷⁹ were also demonstrative in their approach to the subjects involved. Even though these texts do not acknowledge the specific theory of the *Posterior Analytics* as the one they use, and would not perhaps have been accepted as truly demonstrative by Aristotle, they do show that the concept of demonstration and demonstrative science was important and taken seriously in the twelfth century.

ad 2: It is not true that the *Posterior Analytics* was used only by mathematicians, and particularly by geometers, as proved in *ad 1* above. In particular, it was also used by thinkers with an interest in theology and metaphysics. But, of course, demonstration *is* perfectly suited to mathematics, and this was recognized by Aristotle himself,²⁸⁰ Boethius,²⁸¹ and others.²⁸² There are some indications that other scholars of the twelfth century might have thought like John.²⁸³ It may be noted that the Arabic tradition knew well that demonstration could also be used in areas other than mathematics,²⁸⁴ but at the same time it was stressed that there

de causis. As Grellard points out to me, it is, however, not at all certain that Aristotle himself would accept this work as truly demonstrative.

²⁷⁷ Hermann of Carinthia, *De essentiis*, ed. by Burnett, I, p. 78; Anonymus Aurelianensis II, *De paralogismis*, in 'Anonymus Aurelianensis II', ed. by Ebbesen, p. 35; Guillaume de Conches, *Glosae super Platonem*, ed. by Jeaneau, LVII, p. 100; Thierry of Chartres, *Lectiones in Boethii librum De trinitate*, VII.5–7, in *Commentaries on Boethius*, ed. by Häring, pp. 224–25; Abbreviatio Monacensis, *Commentum super Ebdomadas Boetii*, 28–33, in *Commentaries on Boethius*, ed. by Häring, pp. 410–11.

²⁷⁸ Edition: 'Alanus de Insulis: *Regulae caelestis iuris*', ed. by Häring.

²⁷⁹ Edition: Dreyer, *Nikolaus von Amiens*.

²⁸⁰ See, generally, Aristotle, *APo.*, I, in which almost all the examples concerning demonstration are drawn from mathematics. On the subject of mathematical examples in the *Posterior Analytics*, see Kullmann, 'Die Funktion'. See also Aristotle, *Ethica Nicomachea*, I.3, 1094b23–27.

²⁸¹ See the quotation above p. 142, n. 273, and Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, pp. 16–18.

²⁸² On John's contention that the *Posterior Analytics* is of use only to mathematicians, see also Diez, 'Tres clases de lógica', pp. 357–67, but Diez does not say much about the Aristotelian background.

²⁸³ *Coventry Introduction to Boethius's De arithmetica*, in Burnett, 'Innovations in the Classifications of the Sciences', § 16, p. 35.

²⁸⁴ *Liber introductorius*, ed. by Nagy, III–IV, pp. 58–61, on demonstration in psychology and cosmology.

were two branches of demonstration: logical and geometrical, and those who are to learn demonstration should start by studying the geometrical branch.²⁸⁵ As Dod points out,²⁸⁶ this is an un-Aristotelian element, but it seems to fit John's case: he had simply not progressed beyond an elementary knowledge of geometrical demonstration to demonstration proper. It may be noted that his summary of geometrical practices in the *Policraticus* is based on Boethius, not on Euclid.²⁸⁷

ad 3: It is not true that geometry was not of interest to Western scholars of the twelfth century. Euclid made a remarkable comeback in this century, and a number of complete translations, revisions, and differently composed versions of the *Elements* were produced.²⁸⁸ John's own student, William of Soissons, was an expert in Euclidean mathematics.²⁸⁹ It is also interesting to note that Euclid's *Elements* is included in Thierry of Chartres's *Heptateuchon*,²⁹⁰ and thus Thierry seems to stress the importance of geometry.²⁹¹ Furthermore, the well-known story, related by Alexander Neckham in the *Corrogationes Promethei*, that Adam of Balsham corrected Thierry of Chartres's incorrect reading of a *Sophistici elenchi* passage concerning the squaring of the circle — or at least understood it correctly independently of Thierry's interpretation — suggests that Adam had some knowledge of geometry.²⁹² Finally, Dronke has pointed to a passage in Daniel of Morley's *Philosophia* (or *Liber de naturis inferiorum et superiorum*), in which Daniel laments the poor quality of studies as regards the *quadrivium*

²⁸⁵ *Liber introductorius*, ed. by Nagy, III, pp. 57–58. See also above 2.3.

²⁸⁶ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 78–79.

²⁸⁷ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 114–17 (bk VII, chap. 7) with Webb's *apparatus fontium*.

²⁸⁸ On the subject, see the references above p. 65, n. 11.

²⁸⁹ Guillaume de Tyr, *Chronicon*, ed. by Huygens, verses 19, 12 (II (63A), 881). On William of Soissons, see above 1.1.2.

²⁹⁰ For the contents of the *Heptateuchon*, see Appendix 2 below. See also Burnett, 'La Réception des mathématiques', pp. 101–03.

²⁹¹ See Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 244, and n. 70.

²⁹² Meyer, 'Notice sur les *Corrogationes Promethei*', p. 677: 'In geometria dicuntur "lunulae" quaedam portiunculae circuli, et in hac significatione utitur Aristoteles vocabulo in libro Elenchorum, ubi de quadratura circuli loquitur, ubi Terricus deceptus legit "plunulas", antequam liber iste venisset in manus magistri Adae Parvipontis' (In geometry 'lunulae' are used to signify some segments of the circle, and in this sense Aristotle uses the word in the *Sophistici elenchi* where he talks about the squaring of the circle. Thierry got this wrong and read 'plunulae', before the book had come into the hands of master Adam Parvipontanus). The passage is cited, and thus more conveniently located, in Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', p. 161, and in Garfagnini, 'Ratio disserendi', p. 939.

in Paris around the 1150s.²⁹³ Dronke rightly claims that if Daniel had only gone to the right places (Chartres, Dronke would say) he would have found Latin scholars doing excellent work on the mathematical sciences. One might speculate that John based his statement on his own memory, or notes, of his schooldays in the 1130s in which period geometry was not yet as prominent and Thierry's *Heptateuchon* did not exist. Or, equally plausibly, the reference to the Arabic scholars as the ones who were occupied with this subject may show that John had some of his information from such sources, for instance, the Latin translations of Euclid's *Elements*. If he knew (as he certainly did) that geometry in particular used demonstrative methods, he would be able to gather the essentials from these translations, perhaps in some cases supplemented by a preface or a compendium, but that is speculation. I also consider it likely that he gained some knowledge from compendia similar to the *Liber introductorius*.²⁹⁴ This would also prove important as regards the sources for John's general views on demonstration. It can be conjectured that John is voicing a view that accompanied James of Venice's translation; for one of its major characteristics is to leave the Greek technical terms, of geometry in particular, untranslated.²⁹⁵ However, as Dod points out, it should be noted that this would mean that the accompanying view would be a very weak and outdated theory, which is perhaps unlikely. In any case, John's claim does not reflect the true status of mathematical studies in the twelfth century.

The three claims that I have now treated are, I would argue, simply mistakes on John's part. He does not acknowledge the use made of demonstrative science in the twelfth century. In fact, he seems to be unaware of the fact that disciplines concerned specifically with demonstrative procedures were highly valued in his day.

Numbers i–iii above are closer to the truth, but they are strange in another respect; for they would seem to indicate a knowledge of philology and the transmission of texts that John did not really have. Therefore, I shall return to these points below, and for now I shall merely provide brief comments on the statements.

(*ad i*) The *Posterior Analytics* is indeed one of the most difficult treatises in the entire *Corpus Aristotelicum*, and easily the most difficult in the *Organon*. (*ad i.a*) The text is certainly complicated both in the Greek and in the Latin version,

²⁹³ 'Daniel von Morley, *Philosophia*', ed. by Maurach, 1.1–6, pp. 212–13. Also edited in 'Daniels von Morley, *Liber de naturis*', ed. by Südhoff. See Dronke, 'New Approaches to the School of Chartres', p. 128.

²⁹⁴ See below 4.2.7–4.2.8.

²⁹⁵ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 32–33, for example, *ισοσκελές, ισόπλευρον, σκαληνόν, έτερόμηκες*.

but (*ad i.b*) it is harder to understand why John would claim that the examples as such are outdated. To this we shall also return below.

(*ad ii*) It is also true that the text is corrupt. The original text, which John did not know — or at least was not able to read on his own — is written in a tortuous Greek that was always likely to cause corruption already in the transmission of the Greek text. Still, the question how John could possibly know this remains. I would suggest that he had simply been told this, either by one of his masters in France (Richard ‘the Bishop’ or Adam of Balsham being likely candidates perhaps), or later by one of his Greek-speaking friends, for instance John of York or John the Saracen.²⁹⁶

(*ad iii*) Finally, from a scholar who does not read Greek it is a remarkable claim that the translator did not do a good job, particularly as John has already claimed to know that the text was very corrupt, which would also account for a bad Latin text.²⁹⁷ He is not, however, completely wrong. James of Venice, whose translation of the *Posterior Analytics* was to become the standard text throughout the Middle Ages, introduced the Latin West to a number of Aristotle’s treatises, and for this he should be given credit.²⁹⁸ But he was not a great translator. Literal word-for-word translations were the ideal, and James should not, of course, be blamed simply for trying to live up to this ideal. However, unlike his illustrious predecessor, Manlius Boethius, James also makes some strange mistakes in translation, particularly when he is trying to be very literal.²⁹⁹ It is, however, a matter for discussion whether the number of mistakes is high enough to warrant the claim that you cannot trust his translations. Still John is right, to some extent, but it is somewhat surprising that he can even make such comments. The explanation should be similar to the preceding one.

These are preliminaries, albeit (I submit) substantial ones, and the issues will be treated more carefully when I have examined the more concrete evidence for John’s knowledge of the *Posterior Analytics*.

²⁹⁶ See above 2.1.2.

²⁹⁷ Of course, it is possible that John had some passive knowledge of Greek, but this would hardly enable him to judge the quality of a translation of Aristotle.

²⁹⁸ On James’s translations, see Minio-Paluello, ‘Iacobus Veneticus Grecus’; Dod, ‘The Study of Aristotle’s *Posterior Analytics*’, pp. 23–39; Ebbesen, *Commentators and Commentaries*, I, pp. 286–89; Dod, ‘Aristoteles Latinus’; Ebbesen, ‘Jacques de Venise’.

²⁹⁹ For an example from the *Posterior Analytics*, see above p. 38, n. 71. For a similar mistake in his translation of the *De memoria et reminiscencia*, see Bloch, *Aristotle on Memory*, p. 180, n. 170.

4.2.6. Apparent Quotations and References from the *Posterior Analytics* in the *Metalogicon*

As we have seen, *Metalogicon* IV.8 is the only chapter to treat the contents of the *Posterior Analytics* in the form of a summary, which is the way that John has also treated the other works of the *Organon*. As we have also noticed, in the case of the *Posterior Analytics* the treatment is somewhat different from the treatments of the rest of the *Organon*. The following is a list of possible and/or apparent references to, or use of, the doctrines of the *Posterior Analytics* and demonstrative science, all found in John of Salisbury, *Metalogicon*, ed. by Hall:³⁰⁰

- i. II.3.24–44, p. 60 = *APo.*?: Logic includes demonstration, dialectic, rhetoric, and sophistry. Demonstration is characterized by strong and necessary principles. It ignores popular opinions, and does not require the assent of anyone else, but is concerned solely with truth. In scientific importance, it is, however, subordinate to dialectic.
- ii. II.4.1–14, pp. 60–61 = *APo.*?: Demonstration is *not* ‘a science of arguing well’, since it does not care about other peoples’ assent. Thus, the definition is reserved for dialectic. But demonstration may accidentally be convincing and well argued if it covers its field properly, and in so doing it obtains a dialectical goal.³⁰¹

³⁰⁰ In the following list of passages, I include precise references (book, chapter, line(s) and page numbers) to Hall’s edition. Much to my regret I have been unable to obtain a copy of Dowdell, ‘Aristotle’s Influence’. The abstract indicates that Dowdell believes that John knew a wide range of Aristotelian works, most of which were not generally used until the thirteenth century. From the evidence of the abstract, then, it seems to me that Dowdell was much too optimistic regarding John’s knowledge of Aristotle in general. For instance, Dowdell seems to have assumed that John had knowledge of Aristotle’s *Physics*, but John of Salisbury, *Metalogicon*, ed. by Hall, I.8, p. 26, says that God must be the origin and principle of motion, and, he continues, ‘I do not think that Aristotle would deny this’ (Item principium motus secundum se a Deo habuisse initium, nec Aristotelem negaturum credo). Had he known *Physics*, VIII (or *Metaphysics*, XII), he would not have been in doubt. Therefore, I also doubt that Burnett, ‘John of Salisbury and Aristotle’, pp. 23–24 and n. 18, is right in suggesting (albeit with explicit caveats) that John may have known the *Physics*. The reference to Aristotle’s *Physics* in *Abbreviatio Monacensis*, *Commentum super Boetium De duabus naturis in Christo* (= *Contra Eutychen*), I.43, in *Commentaries on Boethius*, ed. by Häring, p. 447, presumably reflecting Thierry of Chartres’s teaching, is immediately compromised by a further reference to a non-existent *Mathematics*; so also the one in Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, 18, p. 124.

³⁰¹ Nos i–ii are both likely to stem from *Sophistici elenchi*, 2, 165a38–b11, at the beginning of which demonstration is described in the Latin translation as a *disputatio*. Commentators seem

- iii. II.5.22–25, p. 62 = *APo.*?: Demonstrative logic is concerned with ‘discovery’ and ‘judgement’, and in this respect it is connected with dialectic and sophistry.
- iv. II.5.50–60, p. 63 = *APo.*?: Demonstration is concerned with truth, dialectic with probability, sophistry with the appearance of probability. A person who does not embrace demonstrative and dialectical logic does not aspire to truth, and does not even care about probability. He who does not seek truth, does not seek virtue either.
- v. II.13.25–55, pp. 75–76 = *APo.*?: Demonstrative logic works on the basis of ‘necessary methods’ (*necessarias methodos*), and thus seeks to establish unbreakable connections between things. However, it is often impossible to arrive at certain knowledge, since God alone knows the limits of possibility. Thus, demonstration is generally useless in natural science; in mathematics it is strong. A person who wants to master demonstrative science should first study dialectic.
- vi. II.14.1–4, p. 76 = *APo.* I.33? (but more likely Boethius): Some subjects can belong to both demonstrative and dialectical logic, if they involve both necessity and probability.
- vii. II.14.33–36, p. 77 = *APo.* I.4, 73a28–34?: If one wants to object to something that seems to hold true in all cases, one should provide an instance to the contrary (Lat. *instantia*, Gr. *ἐνστάσις*).³⁰²
- viii. II.20.397–99, p. 96 = *APo.* I.22, 83a32–34: On dismissing the Platonic forms there is an almost (but not completely) exact quotation from James of Venice’s translation. This is alongside a textual variant from another twelfth-century Latin translation from ‘John’ (*monstra* James, *cicadationes* ‘John’).³⁰³
- ix. III.5.50–51, p. 120 = *Top.* I.1, 100a27–29: The *Topics* shows the nature and sources of demonstration.
- x. III.9.63–75, pp. 129–30 = ?: It is difficult to distinguish between ‘necessary’ and ‘probable’. Necessity can never be established with absolute certainty.

also to have influenced John here. The passage puzzled twelfth-century authors and spurred much discussion; for demonstration is characterized in particular by *not* allowing any discussion.

³⁰² Note that there is, of course, also much discussion of ‘instance to the contrary’ in the *Topics*.

³⁰³ On this passage, see also above 2.1.2 and the present section below.

- xi. iv.8.4–5, p. 146 = *APo.* i.1, 71a1–b8; i.2, 72a27–28: One must have prior knowledge of the principles in a demonstration.
- xii. iv.8.5–8, p. 146 = *APo.* i.4, 73a24 and i.6: Demonstrative deductions from the principles must be conducted ‘by necessary inference’ (*ex necessitate*).
- xiii. iv.8.9–10, p. 146 = *APo.* i.2, 71b21: Demonstrative science proceeds ‘from true, primary and immediate premises/principles’ (*ex veris et primis et immediatis*).³⁰⁴
- xiv. iv.8.10–12, p. 146 = *APo.* i.2, 71b23–24: Not every syllogism is a demonstration, but every demonstration is a syllogism.
- xv. iv.8.13–17, p. 146 = *APo.* i.2, 71b34–72a5: Known ‘for us’ (*ad nos*) and ‘by nature’ (*natura*) is not the same thing. Knowledge gained by sense perception is better known to us, whereas things that are further removed from sense perception are better known *simpliciter* and by nature.
- xvi. iv.8.17–19, p. 146 = *APo.* i.2, 72a6–7: The demonstrator proceeds from the principles by immediate propositions.
- xvii. iv.8.19–22, p. 146 = *APo.* i.4, 73a25: The science of demonstration is useful for ‘discovery’ (*inventio*) as well as for ‘judgement’ (*iudicium*), because it teaches ‘from what and how a demonstration comes about’ (*ex quibus et qualiter contingat demonstrare*).³⁰⁵
- xviii. iv.8.22–23, p. 146 = *APo.* i.10, 76a37–b22: The science of demonstration teaches when and how one must use common or special principles.
- xix. iv.8.24–26, p. 146 = *APo.* i.8, 75b24–25: One cannot demonstrate corruptibles.
- xx. iv.8.26–28, p. 146 = *APo.* i.19, 81b18–20? (see also *APo.* i.1, 71a1–17): Probable syllogisms are performed by the dialectician and the rhetor, not by the demonstrator.

³⁰⁴ But note that Aristotle mentions several more characteristics in *APo.* i.2, 71b21. Combinations of other sources, for example, *Tópica*, i.1, 100a27–b21, where ‘true’ and ‘primary’ are mentioned as characteristics of demonstration, are perhaps equally likely, and the previously mentioned preface to the Adelard version III of Euclid’s *Elements* similarly mentions only these two (see above 3.1.1). At the beginning of his *APr.*-commentary, Anonymus Aurelianensis III mentions only ‘immediate’ as a characteristic: Orléans BM, MS 283, p. 178a.

³⁰⁵ Of course, the part concerned with ‘discovery’ and ‘judgement’ is not derived directly from the Aristotelian treatise.

- xxi. iv.8.28–34, pp. 146–47 = ?.³⁰⁶ The science of demonstration shows ‘what deductions and propositions should be used’ (quibus syllogismis quibusve propositionibus utendum sit) and ‘what is a [demonstrative] deduction [...] and which figure is suitable for this kind of deduction’ (quis [...] syllogismus [...] quaeve sit figura syllogismo accommoda).
- xxii. iv.8.36–43, p. 147 = *APo.* i.18, 81b2–9; *APo.* ii.19, 100a3–4,8, *verbatim* quotations from both passages (although the ones from i.18 are more true to the wording than those from 100a3–4,8), but put together in a single passage.
- xxiii. iv.9.4–6, p. 147 = *APo.* ii.19, 99b35: Perception is a ‘natural power that indicates things’ (*naturalis potentia indicativa rerum*).³⁰⁷
- xxiv. iv.9.5–8, p. 147 = *APo.* i.18, 81a38–39?; ii.19, 99b36–39?: Perception is needed if one shall ever obtain knowledge.³⁰⁸
- xxv. iv.9.20–21, p. 148 = *APo.* ii.19, 99b35: Perception is a power of the soul (*vis animae*) rather than a passion of the body (*passio corporis*).³⁰⁹
- xxvi. iv.12.12–18, pp. 150–51 = *APo.* i.18, 81a38–39?; ii.19, 99b36–39?: Perception is needed if one shall ever obtain knowledge.³¹⁰
- xxvii. iv.13.5–7, p. 151 = *APo.* i.18, 81a38–39?; ii.19, 99b36–39?: Perception is needed if one shall ever obtain knowledge.³¹¹

³⁰⁶ Dod, ‘The Study of Aristotle’s *Posterior Analytics*’, p. 64, suggests *APo.*, i.24,25,14 (?), and perhaps *APo.*, i.12, 77a36–41, but *they* are all unlikely sources. John’s text reads much more like something that has been culled from a text similar to the *Topics* preface that we have examined above (see 4.2.3).

³⁰⁷ Most likely, *iudicativa* should be read.

³⁰⁸ Dod, ‘The Study of Aristotle’s *Posterior Analytics*’, p. 173, n. 30, singles out Aristotle, *APo.*, i.18, 81a38–39, without the question mark, but the statement is much too general for us to be certain that this is the passage that John is referring to, and the more careful description in no. xxvi indicates that John is actually referring to *APo.* ii.19, 99b36–39. In fact, it may be important that this particular point is strongly emphasized in the Arabic tradition, not least in the *Liber introductorius*. Note further that Aristotle is talking about knowledge in general, whereas John refers to a particular kind of knowledge, namely, of temporal and sensible objects.

³⁰⁹ See also no. xxiii. In the present passage there is no explicit quotation, but John is obviously referring to the contents of no. xxiii. For the opposite statement in Aristotle, see *Topica*, iv.5, 125b15–18, but here he is clearly concerned with purely dialectical views. For comments on the passage, see also Bloch, *Aristotle on Memory*, p. 122.

³¹⁰ See above the note on no. xxiv.

³¹¹ See above the note on no. xxiv.

- xxviii. iv.20.31–34, p. 158 = *APo.* i.18, 81a38–39?; ii.19, 99b36–39?: Perception is needed if one shall ever obtain knowledge.³¹²
- xxix. iv.31.30–36, p. 168 = (partly inspired by) *APo.* i.3, 72b5–73a20? (but Cicero or Augustine are much more likely sources): Academic scepticism can be divided into three kinds.

In addition to these passages it should, of course, be mentioned that *Metalogicon* iv.6–7 mentions the *Posterior Analytics*. However, there are no discussions of doctrine in these chapters; John simply makes some very general comments.

The list is a revised and slightly enlarged version of the one that Dod has compiled.³¹³ His conclusions were as follows:

It is plain from the *Metalogicon* that the only parts of the *Posterior Analytics* which made any real impact on John were the two short passages in i.18 and ii.19 dealing with the progress from sense-perception to *scientia*. They are the only passages he quotes verbatim in his summary, and they form the *raison d'être* of his account of the powers of the soul. The doctrine of sense-perception being the origin of human knowledge was, of course, not new or startling, and John's account is a philosophically common-place one which would have aroused neither surprise nor protest; what is striking is the fact that under the influence of the *Posterior Analytics* John has presented the doctrine with exceptional force and clarity, and elevated it to form the principal motif of his whole account.³¹⁴

According to Dod, John has focused on particular passages of the *Posterior Analytics* and ignored others, and the treatise has allowed him to present a traditional and common philosophical view with more force and clarity than was usually done.

Certainly, the list makes clear that John uses very few parts of the *Posterior Analytics*, and it is even very likely that quite a few of the items should be excluded from the list. It can be divided into the following categories:

1. General references to demonstrative logic that should not actually be assigned to particular passages of the *Posterior Analytics*.
2. References that could be assigned to one or more passages of the *Posterior Analytics*, but are perhaps more likely to depend on other works.
3. References that can be assigned to specific passages of the *Posterior Analytics*.
4. Quotations from the *Posterior Analytics*.

³¹² See above the note on no. xxiv.

³¹³ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 64–65.

³¹⁴ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 65–66.

To category 1, I assign numbers i–vi, ix–x, and xx — although, as I have indicated in the entry, number xx might also be said to belong to category 2.³¹⁵ General statements such as (my paraphrases) ‘Logic includes demonstration, dialectic, rhetoric, and sophistry’ (i), or ‘Demonstration is concerned with truth, dialectic with probability, sophistry with the appearance of probability’ (iv) are not found in this form in the *Posterior Analytics*. Furthermore, even the contents of the statements are not to be sought there but rather in much more accessible works such as *Topics*, *Sophistici elenchi*, the works of Boethius and sometimes even in the works of John’s near-contemporaries, for example in Hugh of St Victor’s *Didascalicon*. In some instances, the contents are decidedly determined by works of a more recent date. For instance in the case of number iii on demonstrative logic as being concerned with ‘discovery’ and ‘judgement’, in number vi on subjects that belong to both demonstration and dialectic,³¹⁶ and in number x on the difficulty in distinguishing between ‘necessary’ and ‘probable’.

To category 2 belong numbers vii, xi, xxi, xxiv, and xxvi–xxix.³¹⁷ In principle these could be assigned to different passages of the *Posterior Analytics*, but actually they are all better, or at least equally likely to be, explained with reference to other Aristotelian works and other authors.³¹⁸ Numbers vii and xi have obvious parallels in the *Posterior Analytics*, but they are both so general that other sources are equally, or more, likely.³¹⁹ Number xxi also has parallels in the Aristotelian treatise, albeit less obvious ones, but the content is even more general than that of numbers vii and xi, and it may not even have been derived from a particular text. Finally, number xxix may be conceived as a somewhat warped version of *Posterior Analytics* 1.3. Of course, the fact that it is *Academic* Scepticism proves that the main inspiration came from somewhere else.³²⁰

³¹⁵ However, the rhetor is not mentioned in Aristotle, *APo.*, 1.19, 81b18–20, which clearly indicates that xx belongs to my category 1.

³¹⁶ This topic was of some interest also in the thirteenth century. See below p. 178, n. 452.

³¹⁷ One might also include nos xii and xix, but these being part of a more sustained effort to ‘summarize’, they are perhaps more likely to belong to category 3.

³¹⁸ John obviously sometimes cited Aristotle from other sources. For just one example, see John of Salisbury, *Metalogicon*, ed. by Hall, iv.21, p. 159, where he cites *APr.* 11.4, 57b3,4, but does so in the version found in Boethius, *De syllogismo hypothetico*, ed. by Migne, 1 (PL 64, cols 831–876C, col. 836).

³¹⁹ It should, however, be noted that no. xi could well be regarded as part of the ‘summary’, to which the passages of category 3 belong (see the following).

³²⁰ See also above 4.1.2.

Category 3 comprises numbers xii–xix. These are all gathered from *Metalogicon* iv.8, and they constitute John's 'summary' of the *Posterior Analytics*.³²¹ Taken together they comprise the following parts of the treatise:³²² I.2, 71b21, 71b23–24, 71b34–72a5–7; I.4, 73a24–25; I.8, 75b24–25; I.10, 76a37–b22. This in itself is a meagre harvest. Of the approximately seventy pages of the *Posterior Analytics*, John's 'summary', excluding for now the passages from category 4 (which, as we shall see below are not, however, very long either), covers only a single page of Aristotle's treatise. For John does not present the Aristotelian arguments in favour of any particular claim, only the claim itself. That is, he ignores Aristotle's tortuous arguments and states only the conclusions. Furthermore, there are other difficulties, if the passages should be regarded as a summary. For John does not present them in the proper order, but instead jumps back and forth between the different passages.³²³ This is completely contrary to his method of exposition in the chapters on the *Topics*, which we examined above.³²⁴

Category 4 contains numbers viii, xxii–xxiii, xxv, quoting only four passages (three of them very brief) of the *Posterior Analytics*:³²⁵ I.18, 81b2–9; I.22, 83a32–34; II.19, 99b35; II.19 100a3–4,8. I have already discussed some aspects of John's treatment of *Posterior Analytics* I.22, 83a32–34 (no. viii),³²⁶ and I shall return to the contents below. It is a single sentence in which Aristotle dismisses the Platonic theory of forms. For the present purpose, it is interesting (1) that John knows a variant reading for the translation of *τερετίσματα* (*monstra* James of Venice, *cicadationes* 'John' the translator), and (2) that the quotation is not completely accurate. Number 1 certainly indicates direct knowledge of this particular passage of the *Posterior Analytics*, but not necessarily of the surroundings, as I will show below. Number 2 may indicate that, whatever text John had in front of him, it was slightly different from the extant Latin translations. One might be tempted

³²¹ See above 4.2.4.

³²² The references to Aristotle, *APo.*, I.8 and *APo.*, I.10 are perhaps too general to constitute evidence for use of these passages.

³²³ John's order of exposition is: I.4, 73a24; I.2, 71b21; I.2, 71b23–24; I.2, 71b34–72a5; I.2, 72a6–7; I.4, 73a25; I.10, 76a37–b22; I.8, 75b24–25.

³²⁴ See above 4.2.3.

³²⁵ Nos xxiii and xxv refer to the same part of the work, and no. xxii quotes two separate passages. John's earlier description (John of Salisbury, *Metalogicon*, ed. by Hall, I.11, pp. 29–30) of the relation between perception, memory, and reason has affinities with Aristotle, *APo.*, II.19, but the ideas expressed are too general and even seem to echo Cicero, Augustine, and Boethius: Cicero, *De oratore*, I.5.18; Augustine, *Confessiones*, x.8–9; Augustine, *De trinitate*, x.11–12; Boethius, *Commentarium in De interpretatione*, ed. by Meiser, II (*editio secunda*), I.35.3.

³²⁶ See 2.1.2 above.

to speculate that John was quoting from memory, but it is then remarkable that this same imprecision is found in Alexander Neckham and in the well-known thirteenth-century florilegium, *Auctoritates Aristotelis*.³²⁷ It should also be noted that Dod's work has shown, not surprisingly, that marginal comments and variants in MSS containing texts relevant to the *Posterior Analytics* are very frequent.³²⁸ I shall argue that the quotation is not, in fact, taken directly from the *Posterior Analytics*.

At the same time, the two references to *Posterior Analytics* II.19, 99b35–39 (nos xxiii and xxv) may use the same words, but they are not exact quotations, and in any case they are brief and general.³²⁹ Finally, number xxii is supposedly a *verbatim* quotation of two passages from the *Posterior Analytics*. The passages are combined into a single passage of the *Metalogicon*:

***Metalogicon* IV.8.36–43**

Impossibile enim est universalia speculari non per inductionem, quoniam, ut ait, quae ex abstractione dicuntur, per inductiones nota fiunt.

Inducere autem non habentes sensum impossibile est. Singularium enim sensus est. Nec contingit ipsorum accipere scientiam, neque ex universalibus sine inductione, nec per inductionem sine sensu.

Fit ergo ex sensu memoria, ex memoria multorum saepius iterata experimentum, ab experimentis scientiae aut artis ratio manat.

***Posterior Analytics* I.18, 81b2–9; II.19 100a3–8**

Impossibile autem universalia speculari non per inductionem, quoniam et quae ex abstractione dicuntur, est per inductiones nota facere, quod insunt in unoquoque genere quaedam, et si non separabilia sunt, secundum quod huiusmodi unumquodque est. Inducere autem non habentes sensum impossibile est. Singularium enim sensus est; non enim contingit accipere ipsorum scientiam. Neque enim ex universalibus sine inductione, neque per inductionem sine sensu (I.18, 81b2–9).*

Ex sensu quidem igitur fit memoria, sicut diximus, ex memoria autem multotiens facta experimentum. Multae enim memoriae numero experimentum est unum. Ex experimento autem aut ex omni quiescente universali in anima, uno praeter multa, quodcumque in omnibus unum sit illis idem est, artis principium et scientiae (II.19, 100a3–8).

* Note that *autem est* or *est autem* is found in a number of manuscripts: Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 40 (critical apparatus *ad* line 8).

³²⁷ See below and Bloch, 'Monstrosities and Twitterings', pp. 7–30. This is not to say that John never quotes from memory, but this is a topic that needs further investigation.

³²⁸ Dod, 'The Study of Aristotle's *Posterior Analytics*', see in particular his pp. 81–97.

³²⁹ Aristotle, *APo.*, trans. by Iacobi, II.19, 99b35–39, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 105: 'Habent [*scil.* animalia] enim potentiam naturalem iudicativam, quam vocamus sensum; cum insit autem sensus in his quidem animalium fit mansio sensibilis, in aliis autem non fit. In quibuscumque quidem igitur non fit, aut omnino aut circa quae non fit, non est in his cognitio ultra quam non sentiunt'; John of Salisbury, *Metalogicon*, ed. by Hall, IV.9, p. 147: 'Nam cum sensus secundum Aristotelem sit naturalis potentia indicativa rerum, aut omnino non est, aut vix est cognitio, deficiente sensu' (= no. xxiii). See also my note on no. xxv.

Obviously, the part corresponding to *Posterior Analytics* II.19 is not a quotation in the strict sense of the word; it would perhaps be more correct to call it a paraphrase. It is also to be noted that the view expressed here is very common and could well be found in other sources. The section of the *Metalogicon* concerned with *Posterior Analytics* I.18, however, is certainly a quotation from James of Venice's translation. But it is not completely accurate for the syntax has been slightly simplified, an *ut ait* ('as he [Aristotle] says') has been inserted, and a part of the Aristotelian text, namely, I.18, 81b4–5, has simply been omitted. John's text has no parallels in the Latin Themistius,³³⁰ the Greek and the fragmentary Latin Philoponus,³³¹ or in 'John' the translator's or Gerard of Cremona's translations of the *Posterior Analytics*, which means that there are three possible explanations for John's texts:

- a. He copied it directly from the *Posterior Analytics*, but selected and edited the passages that he wanted.
- b. He copied it from a no longer extant compendium or paraphrase of the *Posterior Analytics*.
- c. He copied it from a commentary now lost.

If point c is the correct solution, the commentary should be a Greek one or one by James of Venice. However, Philoponus's commentary can almost certainly be ruled out since the extant Greek text, has nothing like the relevant information (although it is, of course, possible that James of Venice edited it while translating) and James of Venice himself probably did *not* write such a commentary.³³² Point c is, therefore, an unlikely explanation. Obviously, if there were no evidence to the contrary, one would naturally choose point a, and this may be correct, but such an approach demands very good command of the text. To me the passage reads more like an instance of point b. While I have no way of proving this, in the following section I substantiate my impression with evidence, mostly circumstantial.

If one disregards the passages that do not after all look like they are from the *Posterior Analytics*, the following are the ones whose contents John appears to clearly refer to in the *Metalogicon*. That is, the following passages are the ones covered in numbers i–xxix above:

³³⁰ O'Donnell, 'Themistius' Paraphrasis of the *Posterior Analytics*.'

³³¹ Philoponus, *Analytica posteriora commentaria*, ed. by Wallies; 'Anonymus Aurelianensis II', ed. by Ebbesen; Ebbesen, 'New Fragments of "Alexander's" Commentaries'.

³³² See above 2.1.2.

- I.2, 71b21, 71b23–24, 71b34–72a5–7.
- I.4, 73a24–25.
- I.8, 75b24–25.
- I.10, 76a37–b22.
- I.18, 81a38–39; 81b2–9.
- I.22, 83a32–34.
- II.19, 99b35–39, 100a3–4, 8.

This amounts to evidence for (the contents of) less than two pages of the *Posterior Analytics*, and I.2 and II.19 are by far the most prominent parts in John's treatment.³³³ Furthermore, all the passages are cited or referred to as stating facts. He does not try to establish the truth of the passages by using related passages of the *Posterior Analytics* or by stating arguments of his own. And finally, even among these passages, some have all the appearance of not being direct quotations. In fact, not a single passage constitutes an exact quotation.

4.2.7. John of Salisbury's Knowledge of the *Posterior Analytics*

The preceding sections on John's views on, and use of, the *Posterior Analytics* have yielded somewhat surprising results. In modern scholarship, he has usually been regarded as the earliest extant evidence that this treatise was being read and, presumably, analysed.³³⁴ But it has been shown above that, firstly, the explicit evidence is rather meagre,³³⁵ and, secondly, that *Metalogicon* IV.6 contains some rather strange comments on the nature of the *Posterior Analytics* and the possibilities of using it in a theory of science.³³⁶ This raises the question whether John knew and read the entire *Posterior Analytics* at all.

³³³ The quotations from Aristotle, *APo.*, II.19 are not as such extensive, but the contents of the chapter, that is, the description of the process of obtaining universals, are prominent in the chapters IV.9–21.

³³⁴ It has been suggested to me that modern scholarship would certainly claim that the text was being read but *not* that it was being analysed by John's contemporaries. However, I consider this a rather empty objection. If one wants to argue that scholars were actually reading the *Posterior Analytics*, they were hardly just reading it for pleasure as one might, for instance, read a work of fiction.

³³⁵ See above 4.2.6.

³³⁶ See above 4.2.5.

As we have already seen, the Aristotelian treatise must certainly have been in existence for some time when John wrote the *Metalogicon*; presumably from about 1130.³³⁷ But I have also argued that John must have learned the things he knows about demonstration and the *Posterior Analytics* from his teachers in Paris in the period 1136–47/8.³³⁸ At this time, even top-level scholars were not comfortable with the text;³³⁹ sometimes they apparently did not even know it. Therefore, it is very likely, that John did *not* read the entire treatise. Instead he probably based his views and statements on (a) the Parisian masters' oral teaching and perhaps on (b) some sort of elementary compendium or otherwise abbreviated version of the text. Certainly, (c) he may have had access to the text, but in that case he gained no real insights from it.

The first point appears to me to be rather uncontroversial, since it is in full accordance with John's own assertion in the *Metalogicon* that he had not had the time to study matters of logic since he had left Paris.³⁴⁰ The second is not equally solidly founded, because no clear physical evidence of such a Latin *Posteriora*- or demonstrative science-compendium exists. That said, a text like the Arabic *Liber introductorius in artem logicae demonstrationis*, translated into Latin (perhaps by John of Seville or Gundissalinus), is of a form that would fit John's knowledge of demonstration very well.³⁴¹ As shall be demonstrated below, some anonymous compendia and commentaries on the *Elenchi* indicate the existence of a compendium concerned with demonstrative science, perhaps attributed to 'Alexander'. Such *Elenchi* compendia could also have functioned as paradigms of how to write compendia, if paradigms of that kind were needed, which they need not have been.³⁴²

Therefore, I propose the compendium solution as the most plausible explanation of the fact that John's knowledge and understanding of the treatise itself are very limited. In the following I shall attempt to further substantiate the hypothesis that John probably never read the entire treatise:

³³⁷ See above 2.1.2 and Bloch, 'John of Salisbury, "John" the Translator'.

³³⁸ See Chapters 1 and 2 above.

³³⁹ See 2.1.2 above.

³⁴⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.prologus, pp. 101–03. See also 2.1.2 above.

³⁴¹ See above 2.3.

³⁴² Already in the eleventh century, Garlandus Compotista, *Dialectica*, ed. by De Rijk, prologus, p. 1, describes his procedure as (1) excerpting from the authorities without necessarily maintaining their order of progression, and (2) inserting his own as well as his masters' material.

First, there is the evidence provided by information external to the *Metalogicon* itself.

1. 'John' the translator's preface to his translation of the *Posterior Analytics* reveals that Parisian masters in the second quarter of the twelfth century did not know how to handle this particular Aristotelian treatise, and they did not use it in their regular courses. Few people would attempt to study it without help from a teacher or a commentary/paraphrase, and John is certainly no exception. Therefore, as I suggested above, his views and understanding are probably derived from oral teaching and perhaps help from a compendium or some sort of paraphrase.

Second, John's views on Aristotelian logic and demonstration, as they are found in the *Metalogicon*, are limited to the most elementary features.³⁴³

2. Demonstration strives for necessary conclusions, he says, and therefore it proceeds on the basis of necessary premises. As a result, it is almost useless in all other disciplines than mathematics. He is unclear about the position of demonstration in logic. He states vaguely that Plato used logic for dialectic and rhetoric, and that others added demonstration and sophistry.³⁴⁴ This means that John ends up with a tripartite division of logic into 'demonstrative', 'probable' (*probabilis*), and 'sophistic' logic; for under 'probable' he includes both dialectic and rhetoric.³⁴⁵ His general lack of precision does not indicate great familiarity with Aristotle's logic. Regarding demonstration, one may also note that its relationship with dialectic is altered to fit John's general views. Thus, he claims that a person who wants to master demonstrative science must first study dialectic.³⁴⁶ It may be noted that such a view might be construed as a development — or an interpretation — of the ones found in the Arabic tradition represented by the *Liber introductorius*; for this text begins with a long analysis of a general form of 'argumentation' (*argumentatio*), which is necessarily learned from childhood.³⁴⁷ Also, Cicero does, of course, know the difference between 'necessary' and 'probable', but he still maintains that proof in general should establish probable conclusions, not necessary ones.³⁴⁸

³⁴³ See also 4.2.4 above.

³⁴⁴ John of Salisbury, *Metalogicon*, ed. by Hall, II.3, pp. 59–60.

³⁴⁵ Mews, 'Peter Abelard', on dialectic and rhetoric as 'probable' procedures.

³⁴⁶ See no. v in the list above.

³⁴⁷ See above 2.3.

³⁴⁸ Long, 'Cicero's Plato and Aristotle', p. 58 with references.

3. This conception of demonstrative and dialectical methods as being not only interrelated but also both valid in science is contrary to Aristotle's explicit statement in the *Posterior Analytics* that the merely 'probable' (*probabile*) can never be a scientific principle (*principium*).³⁴⁹ John does not appear to have known that this is a basic feature of Aristotelian science; at least he never sees the problem.
4. It seems that John thought of the *Prior Analytics* as explaining the nature of demonstrative propositions.³⁵⁰ The chapter in which this claim occurs is concerned specifically with *Prior Analytics* 1. Naturally, the statement may be regarded as a simple summary of some of the contents of *Prior Analytics* 1.1, but on the basis of similar statements in the summary of the *Topics* I am convinced that John would defend a stronger view — namely, that one had to go to *Prior Analytics*, not *Posterior Analytics*, to get the relevant information.³⁵¹

Third, passages from the *Metalogicon* indicate that John did not know a number of specific passages of the *Posterior Analytics*.³⁵²

5. The most interesting example is probably the passage from 1.22 that I have already quoted partially,³⁵³ a passage which is usually regarded as solid evidence in favour of John's use of the *Posterior Analytics*: "We

³⁴⁹ Aristotle, *APo.*, trans. by Iacobi, 1.6, 74b21–25, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 17: 'Manifestum est autem ex his et quoniam stulti sunt accipere opinati bene principia, si probabilis sit propositio et vera, ut sophistae quoniam scire scientiam est habere. Non enim quod probabile est aut non principium est, sed primum genere circa quod demonstratur' (From the preceding facts it is clear also that those people are stupid who think that they assume the principles in the right way, if the proposition is probable and true — as, for example, the sophists assume that to know is to have knowledge. For the principle is not that which is probable or not, but rather that which is the first in the genus about which the demonstration is conducted). For the sense of this passage, Ross's choice of *ἡμῖν* instead of *ἡ μὲν* in his Greek edition seems correct, but the medievals read *aut non*.

³⁵⁰ John of Salisbury, *Metalogicon*, ed. by Hall, iv.4, p. 142: 'Ceterum quod necesse est sciri, verissime et certissime traditur. Hoc equidem est quid propositio dialectica aut demonstrativa, universalis, particularis' (Still, it [*scil.* the *Prior Analytics*] teaches completely correctly and with the highest degree of certainty what one must know. That is what dialectical and demonstrative propositions are, what 'universal' and 'particular' are).

³⁵¹ See the similar passage on the teaching of syllogistics: John of Salisbury, *Metalogicon*, ed. by Hall, iii.5, pp. 118–21 and above 2.1.1.

³⁵² On the following argument, see the more substantial treatment in Bloch, 'Monstrosities and Twitterings'.

³⁵³ See above 2.1.2.

can bid the forms farewell,” says Aristotle. “For they are monstrosities,” or, according to the new translation, “nonsensical noises”, “or if they do exist, they are irrelevant to our discussion.”³⁵⁴ But, in fact, the quotation is not accurate.³⁵⁵ And furthermore, John immediately adds a note of caution: ‘Even though Aristotle may here be understood as referring to the Platonic ideas ...’³⁵⁶ I take his hesitant tone to mean that John is not, in fact, quite sure to what Aristotle is referring, and that is very odd if he actually had the *Posterior Analytics* in front of him.³⁵⁷ This particular chapter of the text is concerned with different kinds of predicates, and it certainly makes for difficult reading. Still, it seems that there is not a single commentator who did not realize that Aristotle is referring to Plato’s forms. Furthermore, John had studied with ‘Platonists’ like William of Conches and Thierry of Chartres, and elsewhere he feels that he knows both Plato and Aristotle well enough to dismiss the attempts of Bernard of Chartres and his followers to establish fundamental agreement between these great philosophers.³⁵⁸ Furthermore, McGarry claims, rightly I believe, that John consciously rejects the Platonist views on forms.³⁵⁹ Plato himself was probably only available to John through Calcidius’s partial translation of the *Timaeus*, but Calcidius’s commentary and a number of other sources contributed a wealth of information.

Now, we know that the translations of *Phaedo* and *Meno* made by Henry Aristippus were, in fact, in existence, and, if they had exerted influence in the

³⁵⁴ John of Salisbury, *Metalogicon*, ed. by Hall, II.20, p. 96: “Gaudeant” inquit Aristoteles, “species. Monstra enim sunt”, vel secundum novam translationem “cicadationes”, “aut si sunt, nihil ad rationem.”

³⁵⁵ Aristotle, *APo.*, trans. by Iacobi, I.22, 83a32–34, in Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 1, p. 46: ‘Species enim gaudeant. Monstra enim sunt, et si sint, nihil ad rationem sunt.’

³⁵⁶ John of Salisbury, *Metalogicon*, ed. by Hall, II.20, p. 96: ‘Quod et si de Platonicis ideis possit intelligi.’

³⁵⁷ On universals in general, see the extensive treatment in de Libera, *La Querelle des universaux*.

³⁵⁸ John of Salisbury, *Metalogicon*, ed. by Hall, II.17, p. 83. It is noteworthy that Cicero argues in favour of compatibility between Plato and Aristotle: for example, Cicero, *De finibus*, v.8.21–22; Cicero, *Academica*, I.4.16–18. And for the twelfth century, see, for example, Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 18–24.

³⁵⁹ McGarry, ‘Educational Theory in the *Metalogicon*’, p. 665. See also John of Salisbury, *Metalogicon*, ed. by Hall, IV.16, IV.36, pp. 153–54, 175–76.

twelfth century,³⁶⁰ much about Plato's forms could have been gained from them. It is noteworthy that these particular works, the ones that most clearly set forth Plato's views concerning forms, were the ones chosen for translation by Aristippus. John travelled in Italy, so he may have had the opportunity to see them. Present research, however, indicates that these translations had no influence in the twelfth century. That said, John certainly did have access to the descriptions by several ancient authors and some medieval authors. These include Cicero, Macrobius, Martianus Capella, Calcidius, Boethius, and Augustine, as well as the Platonist Dionysius the Areopagite. I suspect that Cicero, from whom John could have obtained a wealth of information, including some concerning Aristotle's rejection of forms, may have been particularly important.³⁶¹ There are other passages in which John shows rather extensive knowledge of Plato's, or Platonist, views and theories.³⁶²

Interestingly, Alexander Neckham (before 1205) did understand the passage as a criticism of Plato's form.³⁶³ Neckham, whose knowledge of the *Posterior Analytics* was also rather limited, did not cull the passage from the *Metalogicon*; for, apparently, he did not know the variant reading *cicadationes* for *monstra*, and in any case, his text is different from John's.³⁶⁴ It is striking, then, that this brief quotation is found independently in both authors, neither of whom cites the *Posterior Analytics* often, and it seems at least plausible that this particular Aristotelian phrase had been extracted and used in a context independent of the *Posterior Analytics*. In this connection, it is perhaps important that both John and Neckham reverse the order of the first words: Aristotle, in James of Venice's translation, has *Species gaudeant*, whereas John has *Gaudeant species*, Neckham *Gaudeant genera et species*; and there are other discrepancies. Thus, they are certainly not citing Aristotle directly from the page.

³⁶⁰ Hermann of Carinthia, *De essentiis*, ed. by Burnett, II, pp. 174–76, with Burnett's note *ad loc.* (his p. 313), cites the *Phaedo*, but apparently without knowing Aristippus's translation.

³⁶¹ Cicero, *Orator*, I.2.7–I.3.10; Cicero, *Academica*, I.8.30–I.9.33. For an analysis of Cicero's conception of Plato, see Long, 'Cicero's Plato and Aristotle', in particular pp. 44–50.

³⁶² John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 937–1118, pp. 167–77.

³⁶³ Alexander Neckham, *De naturis rerum*, ed. by Wright, chap. 173, p. 291. But see Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 66–67, for some other problems in Neckham's interpretation.

³⁶⁴ Alexander Neckham, *De naturis rerum*, ed. by Wright, chap. 173, p. 291: 'Gaudeant genera et species; monstra enim sunt, et si sunt, nihil ad rationem sunt' (We can bid the kinds and the forms farewell; for they are monstrosities, and even if they do exist, they are irrelevant to our discussion).

On this point there is another important piece of evidence. The well-known *Auctoritates Aristotelis* from around 1300 has the following Latin text:

We can bid Plato's kinds and forms farewell, for if they do exist they are monstrosities, and if they do not exist, they are of no use to our discussion or to demonstration; for demonstrations are about these [that is, predicates as defined earlier by Aristotle].³⁶⁵

I note that a florilegium compiled more than 100 years after John and Neckham, and based at least partly on similar ones, corresponds perfectly to Neckham's text and views, and explains the reversed order of *gaudeant-species* in John's text. Thus, since Neckham is able to state confidently that the criticism is directed against Plato, whereas John is not, Neckham either used the text of the *Posterior Analytics* as well or, more likely, based his view on some secondary source that was even closer to the *Auctoritates* than John's text. Dod suggests that the Aristotelian passage had by Neckham's time become a *locus classicus* 'detached from its context'.³⁶⁶ On the basis of major mistakes in the *De naturis rerum*, Dod furthermore points out that Neckham's knowledge of the *Posterior Analytics* in general may well have been second-hand.³⁶⁷ Dod does not, however, notice the similar problems in John's work, and he does not refer to the *Auctoritates*.

6. 'Intuitive understanding' (*intellectus*) is one of the cognitive abilities that John treats in the *Metalogicon*.³⁶⁸ The Latin term *intellectus* translates the Greek *νοῦς*, and this is a human capacity that is extremely important in the cognitive process. The philosophical *locus classicus* is Aristotle's *Posterior Analytics* II.19, but even before this text was introduced, the Latins knew both the term and something about what it signifies.³⁶⁹ John does not refer to the passage from the *Posterior Analytics*. Instead he uses Plato's *Republic*, supported by the known parts of the *Timaeus*; the former he knew from Calcidius. This is a surprising choice for someone who has access to the *Posterior Analytics*, as John supposedly had, and perhaps even to Adelard of Bath's work, which 'was to contribute actively to the

³⁶⁵ *Auctoritates Aristotelis*, ed. by Hamesse, no. 77 (*super primum librum Posteriorum Aristotelis*), p. 317: 'Gaudeant genera et species Platonis; quoniam si sunt, monstra sunt et si non sunt nihil ad rationem vel demonstrationem prosunt; demonstrationes enim de his.'

³⁶⁶ Dod, 'The Study of Aristotle's *Posterior Analytics*', p. 69.

³⁶⁷ Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 66–69.

³⁶⁸ John of Salisbury, *Metalogicon*, ed. by Hall, IV.18, p. 156.

³⁶⁹ Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 17–19, talking about *νοῦς* and *mens*. As is well known, *On the Same and the Different* is an early work.

undermining of the scientific authority of the *Timaeus*.³⁷⁰ At the same time, to refer to Plato for information concerning *νοῦς* or *intellectus/mens* is in perfect accordance with statements that we find in Abelard, and Gilbert of Poitiers would also have taught John similar things about the nature of *intellectus*.³⁷¹

7. In his chapter on the *Categories*, John describes the fundamentals of the scientific process that leads to as perfect a knowledge as human beings can obtain.³⁷² First, he says, we need to know (a) *whether* the object exists, then (b) *what* it is (that is, to which category it belongs), and finally, (c) *why* it is (that is, the cause of the object).³⁷³ This is a perceptive use of Aristotelian theories, but they are not found in this combination in a single work; instead they seem to have been pieced together from different sources. Number b is obviously from the *Categories*, and all ten categories are specified, whereas numbers a and c could be from the *Posterior Analytics* but are so general that they may as well have been derived from other sources.³⁷⁴
8. In his comparison of knowledge (*scientia*) and wisdom (*sapientia*), John refers to 'our forefathers' (*maiores*) for the view that knowledge is of temporal and sensible things. Apparently, he is referring to such thinkers as Cicero, Augustine, Calcidius, and perhaps others. But immediately afterwards, John wants to support his view by stating the thoroughly Aristotelian fact that knowledge depends on perception/sensation,³⁷⁵

³⁷⁰ Wetherbee, 'Philosophy, Cosmology, and the Twelfth-Century Renaissance', p. 29.

³⁷¹ Peter Abelard, *Dialectica*, ed. by De Rijk, v.1, p. 558; Gilbert of Poitiers, *Expositio in Boecii librum De bonorum ebdomade*, 8.prologus, in Gilbert of Poitiers, *Commentaries on Boethius*, ed. by Häring, p. 184.

³⁷² See Guillaume de Conches, *Philosophia mundi*, ed. by Maurach, iv, pp. 10–11, on perfect cognition.

³⁷³ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 110: 'Primo quidem nosse de aliquo an sit; deinde quid, quale, quantum, ad aliquid, ubi, quando sit, quomodo situm, quid habeat, faciat, patiat; novissima speculatio est in singulis, quare sic.'

³⁷⁴ *Liber introductorius*, ed. by Nagy, III, pp. 50–51, mentions nos a and b as basic conditions 'in every science and discipline involving argumentation' (in omni scientia et disciplina argumentabili).

³⁷⁵ John of Salisbury, *Metalogicon*, ed. by Hall, iv.13, pp. 151–52, with the *apparatus fontium* in Hall's (or Webb's) edition, or in McGarry: John of Salisbury, *Metalogicon*, trans. by McGarry, p. 222, n. 144.

and he refers explicitly to Aristotle.³⁷⁶ This indicates that John believes that Aristotle also supports this definition; but the view is decidedly un-Aristotelian and cannot be found in the *Corpus Aristotelicum*. On the contrary, knowledge in the proper sense of the word is *not* of sensible and temporal objects.³⁷⁷

9. John's only treatment of the nature of definitions is found in the part concerned with the *Topics*.³⁷⁸ This was perhaps to be expected, since he regarded this treatise as the most important scientific work by Aristotle, and definitions are also prominent in Boethius's *De topicis differentiis*. But, as regards definitions in science (whether or not one accepts the role of demonstration), the important passages on definition are found in the *Posterior Analytics*.³⁷⁹ However, John never mentions those passages, whereas he does not mind mentioning Victorinus, Boethius, and Cicero. It may be noted that no less an authority than Boethius refers the reader to the *Posterior Analytics* on how to treat definitions,³⁸⁰ and in the *Topics* Aristotle himself informs the reader that definitions should be treated elsewhere, which almost certainly means in the *Posterior Analytics*, but it is perhaps noteworthy that he does not explicitly mention the *Analytics*.³⁸¹ If the reader does not know the *Corpus Aristotelicum*, he would not know where to look.

Fourth, there are some passages that add weight to the above argument, although a certain amount of speculation is involved here.

10. In the first part of *Metalogicon* iv, John examines the *Prior Analytics*.³⁸² However, he refers to it simply as *Liber Analeticorum*. That is, for John the *Analytics* proper comprises only the *Prior*, not the *Posterior Analytics*. The title of the introductory chapter is 'That the book of the *Analytics* is concerned with examining arguments/reasonings'.³⁸³ The following chapter is entitled 'That this science is useful for everything, and how

³⁷⁶ Aristotle, *APo.*, I.18, 81a38–b9, is the passage to which scholars have usually referred.

³⁷⁷ Aristotle, *APo.*, I.8, 75b21–36.

³⁷⁸ John of Salisbury, *Metalogicon*, ed. by Hall, III.8, pp. 125–27.

³⁷⁹ Aristotle, *APo.*, I.2 and, in particular, *APo.*, II.1–13.

³⁸⁰ Boethius, *De divisione*, ed. and trans. by Magee, p. 32.

³⁸¹ Aristotle, *Topica*, VII.3, 153a11–15.

³⁸² John of Salisbury, *Metalogicon*, ed. by Hall, IV.1–5, pp. 140–44.

³⁸³ John of Salisbury, *Metalogicon*, ed. by Hall, IV.1, p. 140: 'Quod liber Analeticorum est rationum examinatus'.

it got its name,'³⁸⁴ and it begins by stating that the science of *Analytics* is very useful and indispensable if one is to be a logician.³⁸⁵ However, this cannot possibly include the *Posterior Analytics*, for which, as we have already seen,³⁸⁶ John found little use. Furthermore, there are other passages in which *Analytics* refers to the *Prior Analytics* only.³⁸⁷ This indicates that John did not see the two *Analytics* as belonging together, and reserved the term 'Analytics' for the *Prior Analytics*, of which he had much better knowledge than of the *Posterior Analytics*.³⁸⁸ When he refers to the latter, he explicitly says *Posterior Analytics*.³⁸⁹

11. In a letter addressed to Richard 'the Bishop' John says as follows:

In addition, I repeat the question that I have often asked you over a very long period of time: that you will have a copy made for me of the books of Aristotle that you possess, and of the glosses on Mark — at my expense, of course, and no cost should on any account be spared in this matter, I beg. Furthermore, I also ask you once again to write glosses on the parts that are particularly difficult, since I do not completely trust the translator; for even though he was an eloquent man in other matters (or so I have often heard), he was less well versed in grammar.³⁹⁰

³⁸⁴ John of Salisbury, *Metalogicon*, ed. by Hall, iv.2, p. 141: 'Quod scientia haec utilis est ad omnia et unde hoc sortita sit nomen'.

³⁸⁵ John of Salisbury, *Metalogicon*, ed. by Hall, iv.2, p. 141: 'Analeticorum quidem perutilis est scientia, et sine qua quisquis logicum profitetur, ridiculus est.'

³⁸⁶ See above 4.2.5.

³⁸⁷ For example, John of Salisbury, *Metalogicon*, ed. by Hall, iv.21, p. 159.

³⁸⁸ The ambiguity of *Analytica* in the twelfth century is well known, and generally it seems that the term refers to the *Prior Analytics*. See, for example, the epitaph of Thierry of Chartres, verses 25–28, in 'Une épitaphe inédite de Thierry de Chartres', ed. by Vernet, p. 670; Godefroy de Saint-Victor, *Fons philosophiae*, ed. by Michaud-Quantin, verses 165–72, pp. 40–41; 'Anonymus d'Orvillensis' Commentary, ed. by Ebbesen, pp. 253–54. See also Rahewin's comment in Otto of Freising, *Gesta Frederici seu rectius Cronica*, ed. by Schmale, p. 538, that Otto of Freising introduced the *Analytica* into Germany. One may suspect that, when both *Prior* and *Posterior Analytics* are mentioned in unlikely contexts, it may sometimes be a result of the author's wrong interpretation of *Analytica*. For a possible case, see Robert de Torigni, *Chronique*, ed. by Delisle, i, p. 177, on James of Venice's translations and commentaries.

³⁸⁹ John of Salisbury, *Metalogicon*, ed. by Hall, iv.6, p. 145.

³⁹⁰ John of Salisbury, *The Later Letters*, ed. by Millor, p. 294 (with their translation on p. 295): 'De cetero iam a multo tempore porrectas itero preces quatinus libros Aristotelis, quos habetis, mihi faciatis exscribi et notulas super Marcum, meis tamen sumptibus quibus, quaeso, in hac re nulla ratione parcatis. Precor etiam iterata supplicatione quatinus in operibus Aristotelis, ubi difficiliora fuerint, notulas faciatis, eo quod interpretem aliquatenus suspectum habeo quia, licet eloquens fuerit alias (ut saepe audiui), minus tamen fuit in grammatica institutus.'

To which works by Aristotle is John referring? There are three things about this quotation, and the letter in general, that help us determine the question. First, the letter was written at some time in the period 1163–70, which almost certainly rules out the best-known treatises, in particular, *Categories* and *De interpretatione*; John did not need Richard in order to obtain these. Second, the fact that he wishes Richard to write comments on the difficult passages indicates that *Categories*, *De interpretatione*, *Topics*, and *Sophistici elenchi*, and possibly also *Prior Analytics*, can probably be ruled out. John had shown five to ten years earlier in the *Metalogicon* that he had already more or less mastered these texts.³⁹¹ Third, and finally, his remarks on the translator puts it beyond reasonable doubt that the *Posterior Analytics* is the only possible part of the *Organon* to which John can be referring, although other Aristotelian writings are also possible candidates. For the rest of the *Organon* had been translated by Boethius, and John cannot be questioning Boethius's understanding of the Greek language; for the Latin medievals, Boethius was in a league of his own.³⁹² The only other translator who had produced the number of Aristotelian translations that John's letter implies was James of Venice. Furthermore, the comments of both 'John' the translator and John of Salisbury himself on James of Venice show that they did not have great confidence in James's translations. Therefore, John almost certainly is referring to James's translations. Now, James made the following translations of Aristotelian texts: *Posterior Analytics*, *Sophistici elenchi* (known only in fragments), *Physics*, *De anima*, *De memoria*, *De longitudine*, *De iuventute*, *De respiratione*, *De morte*, *Metaphysics vetustissima* (= *Metaphysics* I–IV.4 [1007a31]), and *De intelligentia* (pseudo-Aristotelian). Obviously, since the list includes important works such as the *Physics*, *De anima*, and *Metaphysics vetustissima*, and since the letter itself does not indicate *why* John asks for Aristotelian translations, the works to which he is referring cannot be determined. Still, it is at least possible that he wanted, in this period of exile, to study the *Posterior Analytics* more carefully than he had previously, and with the help of a commentary by Richard. In any case, the other works of the *Organon* are excluded,³⁹³ and in general the letter shows that John's old teacher possessed a substantial part of the New Aristotle.

³⁹¹ Nonetheless, Fredborg points out to me that John might well have been interested in an expert's work for instance on his favourite treatise, the *Topics*, or may simply have wanted to refresh his memory of the more difficult matters.

³⁹² Similarly, even if one included Burgundio of Pisa as a prolific translator, albeit of mostly non-Aristotelian works, John would hardly accuse him of bad work. See the respectful comments in John of Salisbury, *Metalogicon*, ed. by Hall, IV.7, p. 145.

³⁹³ So also Dronke, 'New Approaches to the School of Chartres', pp. 126–27, but in Dronke,

12. In the chapter that is supposedly John's only sustained treatment of the *Posterior Analytics* and demonstrative science, he uses the phrase 'common concepts of the mind' (*communes conceptiones animi*) to describe the principles of demonstration.³⁹⁴ Burnett has pointed out that this phrase stems from the *De hebdomadibus*.³⁹⁵ But this would be very odd if John was actually sitting with the *Posterior Analytics* in front of him as the foundation of his chapter. It may also be noted that a passage of the *Policraticus* compares the principles of geometry (named *petitiones* and *communes conceptiones animi*) with the basis of faith.³⁹⁶ Again, Burnett suggests that John may have been thinking of the *De hebdomadibus*.³⁹⁷ In any case, it cannot have been the *Posterior Analytics*. It has been suggested that, in using the Boethian terminology, John was simply trying to explain a terminology and a conceptual apparatus that were not well known by a terminology to which twelfth-century readers could easily relate. I am not convinced by this argument, since the Aristotelian terminology and views on the principles themselves are not actually complicated.
13. John consistently refers to Abelard as 'the Peripatetic of le Pallet' (*Peripateticus Palatinus*). According to John, Abelard gained this title because of his superior understanding of Aristotle.³⁹⁸ John never indicates that it may no longer rightfully be applied to Abelard, but in many ways it is no longer appropriate in 1159. For if, as most (if not all) scholars now believe, Abelard did not really know the *Logica nova*, then someone who did know it would necessarily find his knowledge of Aristotle's logic limited.³⁹⁹

'William of Conches', p. 159, he denies that the *Posterior Analytics* was one of the texts that John asked for. Similarly, Minio-Paluello, 'Iacobus Veneticus Grecus', pp. 292–93, claims that John cannot be asking for the logical works. In the former article, Dronke points out that John's library contained none of the relevant Aristotelian works. See also Lemay, *Abu Mas'shar*, pp. 310–11.

³⁹⁴ John of Salisbury, *Metalogicon*, ed. by Hall, iv.8, p. 146. See the quotation above p. 139, n. 266. See, for example, the same use in Clarembald of Arras, *Tractatus super librum Boetii De trinitate*, i.21, in Clarembald of Arras, *Life and Works*, ed. by Häring, p. 93, and Clarembald's *Expositio super librum Boetii De hebdomadibus*, i.5, in Clarembald of Arras, *Life and Works*, ed. by Häring, p. 191, which is certainly derived from the *De hebdomadibus*.

³⁹⁵ Burnett, 'Scientific Speculations', p. 157.

³⁹⁶ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 114–17 (bk VII, chap. 7).

³⁹⁷ Burnett, 'Scientific Speculations', p. 163.

³⁹⁸ John of Salisbury, *Metalogicon*, ed. by Hall, i.5, p. 20.

³⁹⁹ A similar point is made by Maurice de Gandillac in a comment on a paper by B. M. Olsen (Olsen, 'L'humanisme de Jean de Salisbury'); the comments by de Gandillac and others are printed

There are several possible explanations. Either it was a well-established, honorific title among Abelard's followers and former disciples in John's time, and John therefore uses it unreflectingly.⁴⁰⁰ Or it is possible that John knew from his schooldays that Abelard did have some knowledge of the new logic. Or, finally, it may be that John did not know the *Logica nova* as well as he would have us believe, and thus did not fully comprehend the differences between Abelard's Aristotelianism and the one that was arising with the advent of the entire *Organon*.⁴⁰¹

14. In the *Entheticus maior*, John tells us that 'to fully realize the causes of things is the highest good', according to Aristotle.⁴⁰² Since John knew this, it seems strange that he would then more or less reject the *Posterior Analytics* in which Aristotle explained and analysed this conception, if he had actually read and understood it. Furthermore, the obvious inspiration is not Aristotle but a well-known verse from Virgil's *Georgics*.⁴⁰³
15. In the *Posterior Analytics*, Aristotle famously defines the demonstrative syllogism as a 'syllogism/deduction that produces knowledge' (Gr. συλλογισμὸς ἐπιστημονικὸς, Lat. *syllogismus faciens scire*).⁴⁰⁴ This definition was the standard one also in the twelfth-century commentaries and compendia concerned with the *Sophistici elenchi*. Instead of using this well-known definition, John fastens on the one from the *Topics*: that the demonstrative syllogism is a 'philosopheme' (*philosophima*).⁴⁰⁵ It must

together with the article). Jeuneau answers that John is referring to Abelard as 'the Peripatetic of le Pallet' simply as a result of the latter's skills in dialectic, but, to my mind, this does not really address the problem. For both comments, see Olsen, 'L'humanisme de Jean de Salisbur', pp. 80–81.

⁴⁰⁰ It may be noted that Jeuneau, 'Jean de Salisbur et Aristote', p. 34 with note 13, has pointed to an apparently negative use of 'Peripatetic' in William of Conches' works: Guillaume de Conches, *Glosae super Boetium*, ed. by Nauta, I pr. 3, p. 72. See also John of Salisbur, *Metalogicon*, ed. by Hall, IV.40, pp. 179–81, where it seems that scholars of the twelfth century sometimes thought of 'Peripatetic' as indicating 'wasteful work'.

⁴⁰¹ Of course, it may also be that 'Peripatetic' should simply be taken in the sense given to it in John of Salisbur, *Policraticus*, ed. by Webb, II, p. 122 (bk VII, chap. 8), as someone who is investigating truth.

⁴⁰² John of Salisbur, *Entheticus Maior*, in John of Salisbur, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 671–72, p. 149: 'Esse bonum summum rerum cognoscere causas, credit, quod docuit, magnus Aristoteles.'

⁴⁰³ See the quotation above pp. 46, n. 110, cited by Adelard of Bath.

⁴⁰⁴ Aristotle, *APo.*, I.2, 71b17–19.

⁴⁰⁵ John of Salisbur, *Metalogicon*, ed. by Hall, III.10, p. 135; Aristotle, *Topica*, VIII.11, 162a12–18.

be noted, however, that John is justified by the fact that he is treating the *Topics* in this part of the *Metalogicon*.

Finally, circumstantial evidence may be added. It does not involve John but indicates that other written sources for learning about demonstrative science were in existence in the mid-twelfth century; and that at least some of them could, in fact, provide the reader with some knowledge of the issues involved.⁴⁰⁶

16. In the so-called *De paralogismis*, Anonymus Aurelianus II, who is well versed in Aristotelian philosophy, contrasts the theories of the demonstrative syllogism found in Aristotle and 'Alexander'.⁴⁰⁷ He stresses emphatically that they are different views.⁴⁰⁸ 'Alexander's' view is cited as follows (= passage A): 'Demonstration is a syllogism that produces knowledge.'⁴⁰⁹ When the author comes to treat Aristotle's view, it is said to be the following (= passage B): 'Demonstration takes place from primary and true principles/premises, or from such that take the origin of our cognition of them from primary and true principles/premises.'⁴¹⁰ Passage B is not from the *Posterior Analytics* but from the *Topics*.⁴¹¹ A little later he refers once again to the *Topics* passage as the basic one on this issue.⁴¹² He does mention that Aristotle has the same description in the *Posterior Analytics*, but his quotation is in this case truncated and

⁴⁰⁶ In addition to the following, see also above on Alexander Neckham's knowledge of the *Posterior Analytics*.

⁴⁰⁷ On 'Alexander', see above 2.1.2.

⁴⁰⁸ Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, pp. 27–28: 'agendum est de tertio, secundum quod demonstrativum significat syllogismum; qui ab Aristotele et ab Alexandro diversis modis describitur' (we shall first treat the third [signification of the term 'demonstration'] by which it signifies the demonstrative syllogism; this is described in different ways by Aristotle and Alexander). The following pages of the edition contain the treatment of the different views.

⁴⁰⁹ Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, p. 28: 'Sed primitus descriptionem Alexandri consideremus: "Demonstratio est syllogismus faciens scire."'.

⁴¹⁰ Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, p. 32: 'Demonstratio igitur ab Aristotele sic describitur: "Demonstratio est ex primis et veris vel ex talibus quae per prima et vera eius quae circa ipsa sit cognitionis sumunt exordium."'.

⁴¹¹ Aristotle, *Topica*, I.1, 100a27–29, but the quotation is not a word-for-word copy of Boethius's or the anonymous translation.

⁴¹² Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, pp. 33–34.

provides only the wording of the parallel passage in the *Topics*,⁴¹³ and in the context he is, in fact, relating the passage to his claim that the exact same description also occurs in 'Alexander'. This is all rather puzzling. There are many passages which make it even more strange and produce a curious picture of the author's knowledge, or lack of knowledge, of the *Posterior Analytics*.

First, both A and B are actually Aristotle's views and are found in the *Posterior Analytics*. Although the view attributed to 'Alexander' by Anonymus Aurelianus II may, of course, also be found in the Greek commentary tradition,⁴¹⁴ it is *Aristotle's* view. If our author had read this central passage in the original Aristotelian treatise, he should not have ascribed A to 'Alexander'. Further, not only are both A and B found in Aristotle: they also are found following almost immediately next to each other in the text.⁴¹⁵ Thus, it cannot be a case of Anonymus Aurelianus II reading selected passages of the *Posterior Analytics*, forgetting other parts of the text, and misattributing them. Similarly, the Anonymus Aurelianus I, who wrote on the *Sophistici elenchi*, attributes the well-known Aristotelian definition of 'knowing' (*scire*) (albeit in a somewhat expanded version) to 'Alexander', whereas both Anonymus Aurelianus II and Hugh of Honau ascribe it correctly to Aristotle.⁴¹⁶

Second, Anonymus Aurelianus II does, in fact, cite a definition of demonstration closely resembling the authoritative one from the *Posterior Analytics*, but he attributes it to 'Alexander'.⁴¹⁷ As a consequence, in the *De paralogismis*, Aristotle's view of demonstration is based on the *Topics*, whereas 'Alexander's' is based on something that is almost identical with the one found in some of the best-known passages of the *Posterior Analytics*.

Third, the definition by 'Alexander' just mentioned is explicitly said *not* to be Aristotle's. The one attributed to 'Alexander' (that is, the one resembling the passage from the *Posterior Analytics*) is more explicit than the one attributed to Aristotle (that is, the one from the *Topics*), and Anonymus Aurelianus II

⁴¹³ Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, p. 34.

⁴¹⁴ Philoponus, *Analytica posteriora commentaria*, ed. by Wallies, 3.1–2.

⁴¹⁵ Aristotle, *APo.*, 1.2, 71b17–23.

⁴¹⁶ 'Anonymi Aurelianus I *Commentarium*', ed. by Ebbesen, 2, 165b1, p. 45; Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, p. 28; Hugh of Honau, *Liber de Ignorantia*, 1.6, in 'Hugh of Honau', ed. by Häring, p. 215.

⁴¹⁷ Anonymus Aurelianus II, *De paralogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, p. 32. See also Aristotle, *APo.*, 1.2, 71b20–22.

informs us that the additional elements found in 'Alexander's' description are to clarify matters for the listener/reader, and they *were omitted by Aristotle*.⁴¹⁸ Had he ever read *Posterior Analytics* I.2, which is probably the most famous part of the entire treatise, he could not have said this. As I just mentioned, the anonymous author does a little later refer explicitly to the *Posterior Analytics* as a text that has a definition similar to 'Alexander's'. However, the reference is truncated, and there is no indication that the author knows the content or the surroundings. It is almost certainly derived from a secondary source.

Fourth, in his description of 'immediate propositions' (*immediatae propositiones*), Anonymus Aurelianus II first attributes a definition to Aristotle: such propositions by themselves produce faith/belief in themselves and do not need middle terms. He then informs us that 'Alexander' makes a division of the immediate propositions, and that this division does not follow Aristotle's phrasing but is, after all, in accordance with it: the axioms (*dignitates*) are one kind of immediate propositions; the 'theses' (*positiones*) are another, and this latter kind can be further divided into 'definitions' (*definitiones*) and 'hypotheses' (*suppositiones*).⁴¹⁹ This is all curious. First, the definition attributed to Aristotle is apparently not found in the *Corpus Aristotelicum*. Second, and more important, the division ascribed to 'Alexander' is, in fact, a division of principles that Aristotle himself makes in exactly these words in the *Posterior Analytics*: *dignitas* is ἀξιωμα, *positio* is θέσις, which Aristotle similarly subdivides so that *definitio* is ὁρισμός, and *suppositio* is ὑπόθεσις.⁴²⁰ Thus, we have once again a piece of Aristotelian doctrine attributed to 'Alexander', although our author could easily have found it in the *Posterior Analytics*. If one were to question anything, it should not be the wording but the precise descriptions of these different elements; and that is exactly what the Anonymus Aurelianus II refuses to do. It is also noteworthy that another related

⁴¹⁸ Anonymus Aurelianus II, *De parallogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, pp. 33–34: 'Cetera vero quae in descriptione Alexandri ponuntur intellegentiae auditoris ab Aristotele relinquuntur.'

⁴¹⁹ Anonymus Aurelianus II, *De parallogismis*, in 'Anonymus Aurelianus II', ed. by Ebbesen, pp. 35–36: 'Quas immediatas [scil. propositiones] ita describit Aristoteles: "Immediatae sunt quae per se fidem facientes nullo medio indigent"; in ipsis enim est ut oporteat eis credi. Immediatae vero propositiones ita dividuntur ab Alexandro, quae divisio non habetur ex verbis Aristotelis sed innuitur: Immediata enim alia est dignitas, alia positio. Dignitatem vocat maximas propositiones, quae et immediatae et dignitates sunt, quia digniores sunt aliis. Positio vero ita subdividitur: Positio alia est definitio, alia suppositio; et vocatur talis immediata positio quae est definitio omnis illa ubi definitio praedicatur, nisi sit singularis; suppositio vero vocatur quaelibet suppositio quae certam habet veritatem.'

⁴²⁰ Aristotle, *APo.*, I.2, 72a15–24.

anonymous author, the Anonymus Cantabrigiensis, contains a completely different description of immediate propositions with apparently very little relation to the Aristotelian one from the *Posterior Analytics*,⁴²¹ and that his explicit reference to the text is not easily identifiable, if indeed it can be identified at all. It seems safe to conclude that the Anonymi did not have the *Posterior Analytics* at hand.

Nevertheless, they both seem to know too much about the theory of demonstrative science to have learned it solely from scattered passages of other parts of the *Corpus Aristotelicum*. Again, I think that the best solution may well be a compendium of some sort. S. Ebbesen has suggested that the views mentioned above had been learned from 'Alexander', but if, as Ebbesen believes, this was simply a translation of Philoponus's commentary, or a Byzantine adaptation of this commentary, this seems unlikely.⁴²² It is hard to believe that someone would use Philoponus's commentary, or one very like it, without the text upon which he comments. Perhaps one might even speculate that this oft-quoted 'Alexander' was more a sort of handbook than just an expository commentary. I also note that the tenth-century Arabic commentator Al-Āmirī, who was well known for his Aristotelianism, refers to the Aristotelian theory of knowledge but attributes it to 'Alexander'.⁴²³ It is therefore tempting to see the 'Alexander' references in the Latin tradition as at least partly derived from, or inspired by, the Arabic tradition. However, since most of the Latin quotations answer directly to Philoponus's commentary, and are often very literal translations, it is almost certain that they were translated directly from the Greek, probably by James of Venice.⁴²⁴ This means that the source, whether compendium or commentary,⁴²⁵ was at least partly derived from the Greek. Whether or not an additional Arabic influence is likely, I dare not say. This would have to be a compendium of some sort produced in the first half of the twelfth century, probably around 1150, on the basis of the available Arabic material and the translations from the Greek of (parts of) Philoponus's commentary on the *Posterior Analytics* and, presumably, the *Posterior Analytics* itself.

⁴²¹ Anonymus Cantabrigiensis, *Commentarium in Aristotelis Sophisticos elenchos*: Cambridge, St John's, MS D.12, fol. 83^{r-v}.

⁴²² 'Anonymus Aurelianensis II', ed. by Ebbesen, pp. 99–100, for the confusion in the sources as regards the different attributions.

⁴²³ Ghorab, 'The Greek Commentators on Aristotle', p. 81.

⁴²⁴ 'Anonymus Aurelianensis II', ed. by Ebbesen, for much of the relevant evidence.

⁴²⁵ Ebbesen has suggested a third possibility to me (in conversation), that substantial parts of Philoponus's *Posteriora* commentary were incorporated into an *Elenchi* commentary. However, I am not convinced that this is a more plausible solution than to assume a compendium.

In any case, the authors can hardly have read the entire *Posterior Analytics*.

* * *

This mass of evidence does not show conclusively that John did not read the *Posterior Analytics* — although I think it makes it a very plausible hypothesis — but it does prove that John never really understood the theory of demonstration or the *Posterior Analytics*. Since ethics and other practical disciplines were his prime concern in the *Metalogicon* (and in the *Policraticus*), demonstrative science did not appeal to him in the period in which he was writing these works.⁴²⁶

4.2.8. John of Salisbury on Knowledge and Science

The above sections have explored John of Salisbury's views on Aristotle, on the Aristotelian logical treatises, and his knowledge, use, and understanding of them. He generally accepts the *Topics* and regards it as the most important text, but he also finds some use for the remaining treatises. Teachers are to give the young students a sound education through the Aristotelian *Organon*, and thus provide them with the tools to proceed themselves and obtain proper and higher knowledge. This is opposed to the superficiality of the Cornifician theories. It is now time to connect the different parts of the investigation and try to establish a unified and coherent picture of John's theory of knowledge and science.

According to John, knowledge/science (*scientia*) is a heterogeneous and difficult concept. Demonstration and dialectic were both scientific methods, but, knowledge being by nature uncertain, neither of them produced it in the strictest sense of the word. In fact, it is one of the main tenets of the entire *Metalogicon* that neither John nor anyone else will ever be able to state the truth with complete certainty.⁴²⁷ In a discussion of the concept of 'truth' (*veritas* or *verum*), John declares that opinion (*opinio*) and speech (*sermo*) are true when they are in accordance with the facts (*res*); true opinion may possess a certain amount of certitude,⁴²⁸ but it is basically uncertain. That is, you cannot *know* that it is true, not only because of the

⁴²⁶ See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, II.11, II.13, pp. 73, 74–76.

⁴²⁷ John of Salisbury, *Metalogicon*, ed. by Hall, I.prologus, p. 11. See also John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 93–95 (bk VII, chap. 1), and 4.1.2 and 4.2.3 above.

⁴²⁸ John of Salisbury, *Metalogicon*, ed. by Hall, IV.34, p. 171: 'Proinde "verum" hoc verbum confirmationis nota est, stabilitatemque significat rei cui ratio fideliter possit inniti. "Veritas" vero nomen firmitudinis et stabilitatis est' (The word 'true' is an indication of confirmation and signifies the stability of a fact on which reason can confidently depend. And the word 'truth' is of certitude and stability).

limited abilities of human nature but also as a result of man being in a state of sin.⁴²⁹ God alone can provide human beings with certain truth.⁴³⁰

Still, human beings have been granted a number of faculties, which they share with other animals, as well as some unique faculties that will at least bring them closer to the truth.⁴³¹ Perception (*sensus*) is the most basic faculty; everything else depends on it, assisted by memory (*memoria*) and imagination (*imaginatio*). This is basically an Aristotelian theory, but similar views can, of course, be found in other authors.⁴³² Among the exclusively human abilities, reason (*ratio*) is the first and most important, then follow the faculty and proper use of speech (*usus eloquii*), and, through the intermediate stages of 'opinion' (*opinio*), 'faith' (*fides*), and 'knowledge' (*scientia*) in a broad sense, they combine to provide man with the possibility of obtaining wisdom (*sapientia*).⁴³³ Wisdom, in the sense of practical as well as eternal and stable cognition, is the main goal of life, studies, and philosophy.⁴³⁴ Some scholars of the twelfth century would claim that wisdom and philosophy are simply identical.⁴³⁵ Others would describe and analyse

⁴²⁹ John of Salisbury, *Metalogicon*, ed. by Hall, iv.33, p. 170. John has an extended discussion of 'truth' in John of Salisbury, *Metalogicon*, ed. by Hall, iv.33–39, pp. 170–79.

⁴³⁰ John of Salisbury, *Metalogicon*, ed. by Hall, iv.37, iv.39, pp. 176–77, 178–79. See also McGarry, 'Educational Theory in the *Metalogicon*', pp. 666 and 668 with his notes 65 and 85, for references to relevant biblical, Augustinian, and Apuleian passages. However, judging from John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, xiii, pp. 28–38, which is a summary of Gilbert of Poitiers's views, John took much from Gilbert on these issues.

⁴³¹ Hendley, 'John of Salisbury's Defense', is a brief and clear description of the human cognitive apparatus and processes, according to John.

⁴³² Cicero, *Academica*, i.11.42.

⁴³³ In addition, there is a part played by 'intuitive understanding' (*intellectus*), which is a kind of cognition that surpasses reason and knowledge. For this, see also John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, xiii, p. 32, where *intelligentia* is assigned to God alone and at most a few men, a view that John may well have learned from Abelard. Also, it is noteworthy that John acknowledged the possibility that the soul might have more capabilities than had hitherto been found: John of Salisbury, *Metalogicon*, ed. by Hall, iv.9, p. 148.

⁴³⁴ John of Salisbury, *Metalogicon*, ed. by Hall, ii.1, pp. 56–57. See, for example, Boethius, *De topicis differentiis*, ed. by Nikitas, ii.6, p. 31; Augustine, *Confessiones*, iii.4.8, and compare Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttmer, ii.1, pp. 23–25, and Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 59. For the sources of this view, see also McGarry, 'Educational Theory in the *Metalogicon*', p. 667 with his notes 82–84, and Buttmer's *apparatus fontium* to his edition. Note that Aristotle is not one of the sources listed. For a thorough treatment of the combination: philosophy and wisdom, and reason and faith, with special reference to John, see Dotto, *Giovanni di Salisbury*, pp. 155–61, 168–74.

⁴³⁵ So, for example, Guillaume de Conches, *Glosae super Boetium*, ed. by Nauta, i pr. 1,

wisdom in a thoroughly Aristotelian setting, saying that it is a combination of fully realizing the principles (*intellectus* or *ars*) and the things that follow from these principles (*scientia*).⁴³⁶

It is obvious why reason is needed and speech is required, since ‘unspoken wisdom’ is not actually true wisdom.⁴³⁷ Of course, reason and speech are not sufficient conditions for wisdom. Both can help to shape tools — or ‘arts’ (*artes*) — that will benefit the possessor in his search for knowledge; for such tools are created by human beings and are not provided by nature. Natural abilities are certainly preconditions, but they must be developed by reason and practice, and the arts as such are the results of human efforts.⁴³⁸

The most important tool thus developed is, of course, logic. John clearly implies that knowledge of demonstration, dialectic, and sophistic will provide a person with a broad understanding of every branch of learning:

p. 29: ‘Sapientia et philosophia idem sunt’, probably inspired by the prologue of Cicero’s *De inventione*. Regarding the elevated status of philosophy, it has been suggested that William represents a step forward, compared with Thierry of Chartres. See Lemoine, ‘L’humanisme de Guillaume de Conches’, p. 61. Elsewhere William voices a more common description of philosophy: Guillaume de Conches, *Glosae super Platonem*, ed. by Jauneau, v, pp. 9–11.

⁴³⁶ Anonymus Aurelianensis II, *De parallogismis*, in ‘Anonymus Aurelianensis II’, ed. by Ebbesen, p. 31. For more examples, see Ebbesen, ‘Echoes of the *Posterior Analytics*’.

⁴³⁷ John of Salisbury, *Metalogicon*, ed. by Hall, i.1, pp. 12–13. See also the quotation above p. 94, n. 50. The statement on ‘unspoken wisdom’ echoes a basic Ciceronean theme: for example, Cicero, *De inventione*, i.1.1; Cicero, *De oratore*, ii.1.5, ii.2.6, ii.11.48; Cicero, *De officiis*, i.16.50. John must have learned much about this from William of Conches and Thierry of Chartres personally, and not least from the latter’s commentary on the *De inventione*, edited in Thierry of Chartres, *The Latin Rhetorical Commentaries*, ed. by Fredborg. For the transmission of this view from Antiquity to the Middle Ages, see also Olsen, ‘L’humanisme de Jean de Salisbury’, pp. 56–57.

⁴³⁸ On nature as providing the preconditions, see John of Salisbury, *Metalogicon*, ed. by Hall, i.1, i.8, i.11, pp. 12, 25–27, 29–31. For the arguments in favour of human reason as an origin of the arts, see John of Salisbury, *Metalogicon*, ed. by Hall, i.9, i.11, pp. 27–28, 29–31. The whole foundation is remarkably similar to Adam of Balsham’s, as this is set forth in the *Ars disserendi*. This may also support the claim that Cornificius should be found among Adam’s students or scholars of very similar views. John and Adam would agree on all three requirements: *ratio*, *usus*, and *ars*. (Adam’s *ingenium* is apparently identical with John’s *ratio*; John uses *ingenium* even more basically for ‘fundamental natural capacity’, see, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, i.11, pp. 29–31; John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 1107–08, p. 177; and further John of Salisbury, *Metalogicon*, ed. by Hall, i.8, p. 27.) The Cornificians would accept the first and (nominally) the second, but reject the third. See Appendix 1 below.

It is very easy to talk about 'definition', 'arguments', 'genus', and the like. But it is much more difficult to find them in each of the branches [of knowledge] and thus to make the art [of logic] perform its duty.⁴³⁹

Further:

All things have a way of contributing to each other, so that one will become more proficient in any proposed branch of learning to the extent that he has mastered neighbouring and related branches.⁴⁴⁰

And a few chapters later he says:

The systems⁴⁴¹ of all branches [of learning] are interrelated, and each attains its perfection only through the others. Few are those, if there are any at all, that can achieve the highest point without assistance from another.⁴⁴²

When a person masters demonstration, dialectic, and sophistic, he will also master the processes of 'discovery' and 'judgement', and in doing so he will in some sense master all branches of learning. This is not to say that there are three kinds of knowledge, or methods for obtaining knowledge, which taken together comprise all sciences,⁴⁴³ but John sometimes comes close to such a view⁴⁴⁴ that certainly differs from the Aristotelian.

⁴³⁹ John of Salisbury, *Metalogicon*, ed. by Hall, II.9, p. 70: 'Sic de definitione aut argumentis aut genere et similibus loqui facillimum est, sed eadem ad artis explendum officium in singulis facultatibus invenire longe difficilior.'

⁴⁴⁰ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119: 'Siquidem sibi invicem universa contribuunt, eoque in proposita facultate quisque expeditior est, quo in vicina et cohaerente instructor fuerit.'

⁴⁴¹ Perhaps one should rather use 'principles' to translate *rationes*, as McGarry does.

⁴⁴² John of Salisbury, *Metalogicon*, ed. by Hall, IV.1, p. 140: 'Nam disciplinarum omnium connexae sunt rationes, et quaelibet sui perfectionem ab aliis mutuatur. Vix est quae sine alterius adminiculo, si tamen omnino aliqua est, quae ad summum possit ascendere.'

⁴⁴³ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, p. 119: 'Facile tamen adqueverim singulas in suo proposito dominari, et accessorium esse beneficium cohaerentis' (Still, I readily grant that each rules its own domain, and that the advantage conferred by the adjoining one is only a supplement).

⁴⁴⁴ John of Salisbury, *Metalogicon*, ed. by Hall, II.9, p. 69: 'Nam sicut gladius Herculis in manu pigmei aut pumilionis inefficax est, et idem in manu Achillis aut Hectoris ad modum fulminis universa prosternit, sic dialectica si aliarum disciplinarum vigore destituatur quodam modo manca est et inutilis fere, si aliarum robore vigeat, potens est omnem destruere falsitatem' (Just as the sword of Hercules is inefficient in the hands of a pigmy or a dwarf, but the same sword in the hands of Achilles or Hector strikes down everything like a thunderbolt; so dialectic,

Aristotle divides the sciences (Gr. *ἐπιστήμαι*, Lat. *scientiae*) into the theoretical, the practical, and the productive, all with a number of sub-branches.⁴⁴⁵ He clearly believes that they are all autonomous and related only in a few cases.⁴⁴⁶ There is no suggestion in Aristotle that a person who has mastered mathematics will, *eo ipso*, also be on his way to understanding natural science, metaphysics, ethics, or any other branch of learning; on the contrary, this would be a case of wrongly mixing different sciences.

In contrast, John would apparently claim that there is some sort of connection between the branches of sciences, and the accumulation of knowledge in one branch gradually increases knowledge in neighbouring ones, thereby providing the person with overall knowledge and understanding of the world.⁴⁴⁷ This is also the point about mastering not only dialectical but also demonstrative and sophistic method. For even though dialectic is, according to him, the one that is most useful and applicable in most areas, demonstration is still the best method in mathematics — and therefore needed for full scientific understanding — and sophistry may not *per se* provide knowledge, but it does sharpen the tools of dialectic and demonstration. Mastery of sophistic logic enables one to see when the argument is flawed, how it is flawed, and to some extent how (if possible) it can be corrected by dialectic or demonstration. One could say that, according to John, demonstration establishes valid arguments with necessary and true premises; dialectic examines, establishes, and demolishes valid (and sophistic) arguments in general; sophistry tries to establish invalid (but somehow persuasive) arguments and/or arguments that are for some reason or other unacceptable (but somehow persuasive), and it tries to demolish valid and/or acceptable ones. Different sciences demand different methods: dialectic is used for most branches of learning, in combination with sophistry, to establish knowledge as far as possible. Demonstration is used for mathematics in particular, but it may also contribute more generally to scientific rigour.⁴⁴⁸ The final result is a mixture of

if robbed of the strength of the other disciplines, is in a way crippled and almost useless, but if strengthened by the force of the other disciplines, it is capable of destroying every falsehood).

⁴⁴⁵ Aristotle, *Metaphysica*, vi.1–4, 1025b1–1028a6. See also *Topica*, vi.6, 145a13–18; *Ethica Nicomachea*, vi.2, 1138b35–1139b13.

⁴⁴⁶ So, for example, geometry in relation to optics and arithmetic in relation to harmonics, optics and harmonics being subordinate to geometry and arithmetic respectively; see Aristotle, *APo.*, i.7, 75b12–17; i.9, 76a22–25; i.13, 78b35–39.

⁴⁴⁷ See also John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, xii, p. 27 (quoted above p. 50–51 and n. 132), on a similar view attributed to Gilbert of Poitiers. There are also tendencies in Abelard: see Peter Abelard, *Dialectica*, ed. by De Rijk, iii.1, pp. 286–87.

⁴⁴⁸ John of Salisbury, *Metalogicon*, ed. by Hall, ii.3, p. 60.

different but interrelated kinds of knowledge. The structure of the *Metalogicon* is an example. In the very first prologue, John states that he will not restrict himself to logic but will also include ethics, because ‘all things that are read or written are useless, except in so far as they contribute some kind of help to life.’⁴⁴⁹ John is an advocate of a particular kind of unity of the sciences, and on the theoretical level demonstration is incorporated.

However, demonstration can also work as an ideal to be strived for as far as possible even in dialectic; for there is, of course, nothing wrong with having absolutely true and necessary premises.⁴⁵⁰ Thus, the areas of demonstration and dialectic are not completely separated from each other.⁴⁵¹ The demand in dialectic is simply that the premises must be accepted by the opponent, and truth and necessity will not usually diminish the opponent’s willingness to accept the given premises. John explicitly acknowledges Boethius’s claim that ‘everyone wants their inference to hold necessarily’,⁴⁵² and in the same passage he states that this line of thought apparently had some impact on Abelard’s conception of hypothetical propositions. John’s claim cannot be taken to mean simply that the deduction as such must be valid, for in the passage immediately following he says that the statement may be true, but certain things may be admitted as a result of their evident probability, even when no necessity is involved.⁴⁵³ That is, ‘evident

⁴⁴⁹ John of Salisbury, *Metalogicon*, ed. by Hall, I.prologus, p. 11: ‘omnia quae leguntur aut scribuntur inutilia esse nisi quatenus afferunt aliquod adminiculum vitae’.

⁴⁵⁰ So also Boethius, *De topicis differentiis*, ed. by Nikitas, II.7, pp. 18–20. But see John of Salisbury, *Metalogicon*, ed. by Hall, II.3, p. 60, for the rather strange claim that dialectic is the discipline most desired by practitioners of logic. The point seems to be that dialectic will always be able to cover more fields of knowledge than demonstration, see John of Salisbury, *Metalogicon*, ed. by Hall, II.4, pp. 60–61.

⁴⁵¹ John of Salisbury, *Metalogicon*, ed. by Hall, II.14, p. 77. The question of the relationship between dialectic and demonstrative logic became a point of discussion in the thirteenth century. See, for example, the three *quaestiones* in Boethius of Dacia, *Quaestiones super librum Topicorum*, ed. by Green-Pedersen and Pinborg, qu. I.11–13, pp. 39–46, entitled ‘Utrum idem syllogismus possit esse dialecticus et demonstrativus’ (I.11), ‘Utrum aliquis possit simul scire et opinari eandem conclusionem’ (I.12), and ‘Utrum dialectica sit demonstrativa’ (I.13).

⁴⁵² John of Salisbury, *Metalogicon*, ed. by Hall, III.6, p. 122: ‘Forte ideo quod omnes, ut ait Boethius, volunt necessariam tenere consequentiam.’ See Boethius, *De syllogismo hypothetico*, ed. by Migne, I (PL 64, col. 843).

⁴⁵³ John of Salisbury, *Metalogicon*, ed. by Hall, III.6, p. 122: ‘Sed nihilominus quaedam ob evidentem probabilitatem, quae necessitati plerumque assidet, admittuntur’ (Nevertheless, some things may be admitted as a result of their evident probability, which usually accompanies necessity).

probability' is close enough, because such probability is usually, albeit not always, the result of its following upon true necessity.

So John would agree with Aristotle that there are different branches of knowledge, all of which demand different kinds of methods and standards of accuracy. However, he does move towards the other extreme, namely, the unity of science by saying that neighbouring branches contribute to each other. John seems, then, to hold a common-sense and coherent view on the issue of the sciences.⁴⁵⁴ As a natural result, he wanted prospective scholars to study knowledge in a broad sense of the word without too much specialization. But, at the same time, they should take care not to become too superficial in their studies.⁴⁵⁵

His preference for dialectic in science, and his Christian faith, also make him more or less immune to one of the great difficulties that confronts Aristotle's theory of knowledge and scientific procedure as viewed by Aristotelians of most periods. They had an extremely difficult task in explaining how the premises of the demonstrative deductions can be known with the certainty that Aristotle demands; and how they can be better known than the conclusions.⁴⁵⁶ Without knowing Aristotle's position, the early medievals had already learned from Augustine that Christians do not have such problems concerning the principles of science. God is truth, and the principles — the universals needed by all sciences — are the forms that are found in God's mind.⁴⁵⁷ In order to gain access to these forms, that is, gain access to God's plan for the entire world, human beings need help. God provides this help by 'divine light' (*lux divina*). When God enlightens us, we are enabled to see the eternal universals in God's mind, which constitute knowledge of the principles as well as higher knowledge and understanding. Thus, human knowledge and understanding are directly dependent on God, whereas sense perception and inductive processes can at most provide us with impressions that resemble knowledge. All of this was standard theory in the twelfth century, and it was strengthened substantially by the fact that Boethius also used an 'illumination-description' and was cited by prominent masters on this issue.⁴⁵⁸

⁴⁵⁴ See also immediately above and p. 50–51 and n. 132 for Gilbert of Poitiers's similar views.

⁴⁵⁵ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 122–29 (bk VII, chap. 9).

⁴⁵⁶ See, in particular, Aristotle, *APo.*, I.2, 71b9–72b4. See John's criticism in John of Salisbury, *Metalogicon*, ed. by Hall, II.13, pp. 74–76.

⁴⁵⁷ This theory is actually much older than Augustine. See also Seneca, *Epistulae morales*, 65.7, and he too, as he himself says, is simply repeating the views of previous philosophers.

⁴⁵⁸ Boethius, *In Isagogen Porphyrii Commenta*, ed. by Brandt, *editio prima*, p. 7, l. 5–p. 9, l. 12; Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, I.2, pp. 6–7. On the sources, see Hugh of St Victor, *The Didascalicon*, trans. by Taylor, pp. 181–82 with his notes

Augustine and Augustinian views do not explicitly play a large role in John's Aristotelian account in the *Metalogicon*, but, in fact, John does share several Augustinian views,⁴⁵⁹ not least that no natural, human, ability can provide the certainty that an Aristotelian theory requires. This he would have learned already in his schooldays, perhaps even in his courses on dialectic with Abelard.⁴⁶⁰ We need the solid foundation, but it is provided by God,⁴⁶¹ and God himself cannot, of course, be questioned as a first principle.⁴⁶² Also, in a famous passage from the *Policraticus*, John mentions a large number of philosophical problems that cannot easily be solved, but there are no problems involving first principles.⁴⁶³ Thus, John exhibits the clear features of a scholar standing at the beginning of the Aristotelian tradition: on the one hand, he prefers probable science and scepticism, and he would never question the fact that there are certain first principles provided by God, which are two views that are difficult to reconcile but certainly belong primarily in a non-Aristotelian context;⁴⁶⁴ on the other hand, he wants to incorporate Aristotle's treatises within this framework, as is particularly clear in the case of the *Topics*.

The basis of obtaining knowledge, as we have seen above in Chapter 1, is the seven liberal arts. The first one needs to learn is grammar, which is the foundation of all subsequent studies. Then follows logic proper, and naturally the student should complete his knowledge of the *trivium* by studying rhetoric.⁴⁶⁵ When the student has carefully studied the disciplines of the *trivium*, he masters 'discovery'

19–22. See also Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 43, on 'participation in the word of God' as 'the light of the human mind' (Indubitanter habeo mentis humanae lumen verbi Dei esse participationem; verbum enim Dei lux hominum est).

⁴⁵⁹ See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, iv.31–41, pp. 168–82.

⁴⁶⁰ Peter Abelard, *Letters IX–XIV*, ed. by Smits, no. XIII, pp. 271–77; Peter Abelard, *Dialectica*, ed. by De Rijk, iv.prologus, pp. 470–71.

⁴⁶¹ On certainty as regards the principles, see, in particular, John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 174 (bk III, chap. 1), John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 114–17 (bk VII, chap. 7), and Palazzo, 'Il valore filosofico', pp. 125–34.

⁴⁶² John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 143–44, 174–75 (bk II, chap. 26, bk III, chap. 1).

⁴⁶³ John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 98–99 (bk VII, chap. 2). The principles discussed in John of Salisbury, *Policraticus*, ed. by Webb, II, p. 115 (bk VII, chap. 7), which, according to John, cannot be disputed, are solely geometrical ones.

⁴⁶⁴ On the tension involved in combining such views, see Palazzo, 'Il valore filosofico', pp. 127–28.

⁴⁶⁵ John of Salisbury, *Metalogicon*, ed. by Hall, I.12–13, II.3, pp. 31–33, 59–60. See also John of Salisbury, *Metalogicon*, ed. by Hall, II.10, pp. 70–73.

and 'judgement' as well as the methods of division, definition, and inference.⁴⁶⁶ All of this is relatively unproblematic. One simply has to learn these skills and methods, and then one will master the necessary basis of knowledge. This is to be done primarily by using the Aristotelian writings.⁴⁶⁷

The principles of knowledge and the basic methods did not cause great problems, then, and John could focus instead on the *use* of these principles, and on the methods (demonstration and, in particular, dialectic) to be used in obtaining knowledge. In general, he wants to proceed from what may reasonably be called a quasi-Aristotelian demonstrative procedure with substantial dialectical elements:

1. In all branches of science it holds that principles must be recognized before the investigation proper can take place.
2. From these principles one must deduce one's conclusions, and they must follow by necessity from the principles; that is, the deductions must be valid.
3. But extreme care is demanded of these two procedures; every effort must be made to ensure that no gaps (*hiatus*) can be found in the investigation. That is, one must be able to follow the individual steps of the argument, and they must all be clear and immediately convincing. Otherwise the argument cannot be seen as *per se* necessary.⁴⁶⁸

⁴⁶⁶ John of Salisbury, *Metalogicon*, ed. by Hall, II.6, pp. 63–66.

⁴⁶⁷ The order of study that John would apparently prefer is: *Isagoge*, *Categories*, *On Interpretation*, *Topics*, *Prior Analytics*, *Posterior Analytics*, *Sophistical Refutations*. To moderns it is somewhat surprising that the *Topics* is placed before the *Prior Analytics*, but the twelfth century probably learned about this possibility from the Greek commentaries, as can be seen in an anonymous Latin commentary on the *Prior Analytics*, probably dating from 1160–80 (Orléans BM, MS 283, p. 178a–b). In any case, this ordering of the works fits John's general views perfectly. On the order of study, see also Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttimer, praefatio, pp. 1–3.

⁴⁶⁸ John of Salisbury, *Metalogicon*, ed. by Hall, IV.8, p. 146: 'Sed ad hanc disciplinam quis idoneus est? Profecto et si quis in aliquo, eam in multis nullus perfecte assequitur. Necesse enim est disciplinarum praeferre principia, et ex his ex necessitate uerorum sequelam colligere consentis rationibus, et ut sic dixerim calcatus urgendo nequis quasi ex defectu necessitatis uideatur hiatus, qui demonstrativae scientiae praeiudicium afferat' (Who, then, are qualified to handle this discipline [*scil.* demonstration]? True, there are some who master it in some areas, but no one does so completely in many areas. For one must (1) have prior knowledge of the principles; (2) from these one must gather the sequence of truths by coherent reasoning based on necessity; and (3) one must progress by working very hard to place the argument on solid ground, so to speak, in order that the lack of necessity would not result in the appearance of a gap in the argument, a gap, which would jeopardize the otherwise resulting demonstrative knowledge).

This description of research method is in accordance with the descriptions above. Before using one's tools for research, one must fully realize the principles on which the science in question is based, and from these principles one deduces the conclusions. According to Aristotle, the foundation cannot be disputed or be in any way uncertain, as long as one stays within the boundaries of the science in question. But John thinks that the researcher should continually work to strengthen the argument and fill in the gaps, which means that a truly demonstrative argument is impossible, according to him. This is, of course, in complete accordance with his general sceptical outlook, and in many ways the procedure is more practical than Aristotle's. However, by viewing demonstration in this light, John has more or less abolished the ideal demonstration. Demonstration does *not* allow the expansion of its syllogisms by new middle terms. This is something that the Greek commentators knew well from a passage in the *Posterior Analytics*, and among the Latins a statement to this effect is later found in the *Auctoritates Aristotelis*,⁴⁶⁹ but John seems not to have used this Aristotelian passage.⁴⁷⁰ Thus, according to John, dialectic is the only science that truly remains potent. At the same time, the proper Aristotelian science of demonstration is reduced to a basic description of method that may be applied in all areas of research as an ideal that dialectic may strive for as far as possible. That is, one should try as hard as possible to make the principles of one's deductions necessary, while at the same time knowing that the attempt will never be completely successful. As we have already seen, many twelfth-century authors had problems distinguishing demonstration clearly from dialectic, so John was not alone in his general understanding.⁴⁷¹

These are all complicated matters, and they are difficult to handle in both the original Aristotelian form and in John's modified version. The process of learning itself, in contrast, is very simple, according to John: you read, you learn, you meditate (or think hard), you apply yourself actively to the process!⁴⁷² These are

⁴⁶⁹ *Auctoritates Aristotelis*, ed. by Hamesse, (*super primum librum Posteriorum Aristotelis*) no. 62, p. 316: 'Demonstrationes non augentur per media, sed in post assumpto et in latus.'

⁴⁷⁰ Aristotle, *APo.*, I.12, 78a14–21; Themistius, *Analyticorum posteriorum paraphrasis*, 26.33–27.8; Philoponus, *Analytica posteriora commentaria*, ed. by Wallies, 164.5–165.6. See Aristotle, *Prior and Posterior Analytics*, ed. by Ross, p. 550 (*ad loc.*): 'The advancement of a science, says A., is not achieved by interpolating new middle terms. This is because the existing body of scientific knowledge must already have based all its results on a knowledge of the *immediate* premises from which they spring; otherwise it would not be science.'

⁴⁷¹ See above 4.2.4.

⁴⁷² See, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, I.23, pp. 50–51. And for John's illustration of part of the practice as seen in his description of Bernard of Chartres's teaching, see John of Salisbury, *Metalogicon*, ed. by Hall, I.24, pp. 51–55, and above 1.1.1.

the primary steps in the exercise of philosophy in general and virtue in particular, the latter being the goal of philosophy,⁴⁷³ and they should lead to scientific knowledge.⁴⁷⁴ The procedure involved, John explains, is as follows:

'Reading' examines the matter that is put forth in written works and is immediately at hand; 'learning' also most often engages with written works, and sometimes it moves on to non-written material that has been hidden away in the archives of memory or to those things that stand out in the understanding of a given subject. 'Meditation', however, proceeds further to the unknown things, and often rises itself all the way to the incomprehensible things, and explores not only the clearly manifested things, but also the hidden ones. The fourth element in the process is applying oneself to the work.⁴⁷⁵

That is, the researcher (or student) *reads* the basic texts, or is *taught* by the teacher reading the texts aloud.⁴⁷⁶ The texts should be carefully selected among the authoritative and well-established ones; for reading at random does not make a philosopher.⁴⁷⁷ At the reading, the researcher is merely supposed to obtain a solid foundation provided by the authoritative authors and texts. At this stage, the process does not involve much interpretation and analysis.⁴⁷⁸ Next, the researcher *learns* from the texts, not only while reading but also afterwards, when he remembers what he has read. At this stage, a more critical approach is taken in the attempt to understand the subject and where the problems are. Furthermore, the researcher may use not only the text(s) in front of him but also works that he has previously read. At the third stage, he ponders the contents of the texts carefully

⁴⁷³ John of Salisbury, *Metalogicon*, ed. by Hall, I.23, p. 50: 'Praecipua autem sunt ad totius philosophiae et virtutis exercitium.'

⁴⁷⁴ John of Salisbury, *Metalogicon*, ed. by Hall, I.23, p. 50: 'At lectio, doctrina et meditatio scientiam pariunt' (Reading, learning, and meditation give birth to scientific knowledge/understanding).

⁴⁷⁵ John of Salisbury, *Metalogicon*, ed. by Hall, I.23, p. 50: 'Lectio vero scriptorum praeiacentem habet materiam, doctrina et scriptis plerumque incumbit, et interdum ad non scripta progreditur, quae tamen in archivis memoriae recondita sunt aut in praesentis rei intelligentia eminent. At meditatio etiam ad ignota protenditur, et usque ad incomprehensibilia saepe se ipsam erigit, et tam manifesta rerum quam abdita rimatur. Quantum operis scilicet assiduitas.' Generally on these concepts, see, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, I.23–24, pp. 50–55.

⁴⁷⁶ On the ambiguity of 'reading' (*lectio*), see John of Salisbury, *Metalogicon*, ed. by Hall, I.24, p. 51; see also Quintilian, *Institutio oratoria*, II.5.4.

⁴⁷⁷ John of Salisbury, *Policraticus*, ed. by Webb, II, p. 128 (bk VII, chap. 9).

⁴⁷⁸ See also John of Salisbury, *Metalogicon*, ed. by Hall, III.1, pp. 103–05.

(that is, he *meditates*) in order to understand the subjects fully, and sometimes he even obtains fruits that were not easily extracted from the texts themselves. Thus, the researcher continues to analyse the contents at an even deeper level, and in particular he is now allowed to move beyond the texts and use his own mind, even though the texts and authorities will always be the foundation. The final part of the process consists in *applying oneself* actively to the work in accordance with the knowledge that has been obtained through the preceding three steps. This is the final stage at which one's knowledge is structured and put to practical, that is, ethical, use. By use of an older distinction found, for instance, in Cicero, Victorinus, and Augustine who are the primary sources, this stage is called wisdom (*sapientia*). Wisdom is thus distinguished from knowledge (*scientia*) by being on a higher level than knowledge — or, rather, by being a higher form of knowledge.⁴⁷⁹ Sometimes it is virtue itself (and then *scientia* is the road to virtue),⁴⁸⁰ sometimes the grasp of eternal things and the goal of philosophy (and then knowledge is concerned with temporal and sensible things).⁴⁸¹ Since this final part of the process is primarily *practical*, it is not, strictly speaking, part of the theory of obtaining knowledge.⁴⁸²

On the surface, this theory of how to obtain knowledge is not surprising, and it relies on good authorities. It even seems to be based in part on Aristotle, since

⁴⁷⁹ See Peter Abelard, *Dialectica*, ed. by De Rijk, iv.1, p. 469.

⁴⁸⁰ John of Salisbury, *Policraticus*, ed. by Keats-Rohan, p. 174 (bk III, chap. 1): 'Praecedit ergo scientia virtutis cultum, quia nemo potest fideliter appetere quod ignorat' (Knowledge precedes the cultivation of virtue, for no one can reliably strive for something that he does not know).

⁴⁸¹ John of Salisbury, *Metalogicon*, ed. by Hall, i.6, i.7, iv.13, pp. 23, 24, 151–52, with the references in Hall's (or Webb's) edition, and John of Salisbury, *Policraticus*, ed. by Webb, i, p. 319 (bk v, chap. 9). For a twelfth-century discussion of *sapientia*, see 'Anonymi Aurelianensis I Commentarium', ed. by Ebbesen, i, 165a21, pp. 32–33. Note also that, since wisdom is primarily virtue, which is directed towards action, unspoken wisdom is not actually true wisdom: see John of Salisbury, *Metalogicon*, ed. by Hall, i.1, p. 13. At the same time, John is also aware that wisdom is often thought of as pure contemplation: John of Salisbury, *Metalogicon*, ed. by Hall, iv.19, pp. 156–57. On the difficult concept of wisdom (*sapientia*), see also Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttimer, i.2, i.4, i.8, pp. 6–7, 10–11, 15–16.

⁴⁸² See also the previous note. And for a brief description of 'study' (*studium*) that is in accordance with this procedure, see John of Salisbury, *Metalogicon*, ed. by Hall, i.11, p. 30. The origin of this is Cicero, *De oratore*, i.5.18. This text was not easily available in the Middle Ages, but John seems to have owned a copy: see, for example, Olsen, 'L'humanisme de Jean de Salisbury', pp. 54 and 68, n. 6; Tacchella, 'Giovanni di Salisbury e i Cornificiani', p. 288 and n. 61. It should be noted, however, that more recent scholarship has shown that even the works of Cicero were not as well known to John as he would sometimes have us believe. Thomson, *William of Malmesbury*, pp. 9–12 with notes 39, 53–54.

inductive processes are basic in the theories of both Aristotle and John.⁴⁸³ But it is not basically as Aristotelian as one might have expected.

First, as I have already mentioned, John's conception of knowledge as being of sensible and temporal things rather than having eternal and stable objects is actually very un-Aristotelian. According to Aristotle, knowledge is concerned with that which cannot be otherwise.⁴⁸⁴ Of course, this is not to say that there are no eternal and stable objects according to John, but these are not the object of knowledge (*scientia*).

Second, the procedure of obtaining knowledge through *lectio*, *doctrina*, and *meditatio* was not original to John. It was the way that one was supposed to read the authoritative religious texts, and it is found in similar form in Hugh of St Victor's *Didascalicon* and many other authors.⁴⁸⁵ There is also evidence that the procedure, or one very similar, was used in the study of the arts.⁴⁸⁶ Furthermore, it clearly worked as a prototype of the much more refined scholastic form of study and research that came to dominate in the thirteenth century. Thus, it is a clear and unproblematic part of a twelfth-century tradition.⁴⁸⁷

But this is actually somewhat strange. For one would have expected a new direction in theories of science as a result of the availability of the *Ars nova*. Apparently, Hugh did not have access to it when he wrote the *Didascalicon* in the 1120s. John did have such access in the 1150s, but still the procedure is basically the same as the one found in *Didascalicon*. Aristotle has invaded the basic methods and principles (and even here they are still far from completely Aristotelian), but concerning the concept of knowledge, and the understanding of the process of obtaining knowledge, there are only minor differences between Hugh and John.

⁴⁸³ For John's views on induction, see, for example, John of Salisbury, *Metalogicon*, ed. by Hall, iv.9–11, pp. 147–50; John of Salisbury, *Policraticus*, ed. by Keats-Rohan, pp. 106–11 (bk II, chap. 18).

⁴⁸⁴ Aristotle, *APo.*, I.8, 75b21–36.

⁴⁸⁵ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, praefatio, pp. 2–3.

⁴⁸⁶ Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, pp. 4–6; Guillaume de Conches, *Glosae super Platonem*, ed. by Jauneau, ix, pp. 15–16. Furthermore, Cicero, *De inventione*, I.25.36, played a part in the conception of study.

⁴⁸⁷ It has been pointed out that I focus too much attention on *lectio*, *doctrina*, and *meditatio* while making too little of the central role of induction in John's theory. But it seems to me that this is in complete accordance with John's treatment of the subjects: they are both described as relevant for obtaining knowledge, but the further progress from the results of induction is at best unclear in John's work. He seems to me to be caught between a traditional 'religious' procedure and a traditional 'philosophical' procedure at a time where the latter was beginning to dominate epistemology.

Perhaps all this is not actually very surprising, since John is, after all, our first source concerning the new Aristotle, but it is contrary to the impression that one gets from the *Metalogicon*: that John conducts analyses of and provides us with a thoroughly Aristotelian theory.⁴⁸⁸ In this work, descriptions and analyses of Aristotle's works occupy most of books III and IV, and the Aristotelian theories are clearly meant to provide a foundation for studies. Still, appearances may deceive. I believe that John was actually much closer to the early twelfth-century scholars than is often assumed.⁴⁸⁹

⁴⁸⁸ Nederman, 'Knowledge, Virtue and the Path to Wisdom', presents this view in its strongest form.

⁴⁸⁹ See, to the contrary, Burnett, 'John of Salisbury and Aristotle', p. 21, who believes that John is clearly pointing towards the thirteenth century. Hendley, 'John of Salisbury's Defense', also argues against those who would regard the *Metalogicon* 'as the last stand of a twelfth century humanist against the sudden onslaught of Aristotelian logic' (p. 753).

CONCLUSION

Scholars of the first half of the twelfth century had worked on the basis of Aristotelian writings even when some of the most important treatises were still missing in Latin versions, or at least not easily accessible or understood. In any case, it is difficult to see from their extant works how much twelfth-century scholars had digested and understood of the *Logica nova*. This is true for such prominent thinkers as Peter Abelard, Hugh of St Victor, Adam of Balsham, William of Conches, Gilbert of Poitiers, and others. Thorough investigation of at least some of these thinkers with a view to establish their knowledge and use of Aristotle may still prove very valuable, but in any case, it is true that the *Logica nova* is not the most important part of their respective philosophies.

During the second half of the twelfth century, scholars certainly studied and, to some extent, taught the *Posterior Analytics*, but the level of competence is still difficult to ascertain, and general interest in the text seems surprisingly low; the work simply had little impact on studies.¹ There did exist at this time a translation made by James of Venice of at least parts of Philoponus's commentary on the *Posterior Analytics*, possibly in the form of some sort of compendium, although it may not have been generally available. The existence of a commentary made by James himself is much more doubtful.² Some time before his death in 1187, Gerard of Cremona translated the *Posterior Analytics* from an Arabic version,³

¹ Pace Pasnau, 'Science and Certainty', p. 357: 'When James of Venice translated the *Posterior Analytics* from Greek into Latin, in the second quarter of the twelfth century, European philosophy got one of the great shocks of its long history.'

² See above 2.1.2.

³ Edition: Aristotle, *Analytica posteriora*, ed. by Minio-Paluello, pt 3, pp. 185–282.

and he did the same with Themistius's paraphrase of the treatise.⁴ Thus, a number of tools directly relevant to the study of the *Posterior Analytics* were certainly available, but Alexander Neckham in particular provides us with evidence that it was still not well understood.⁵

Robert Grosseteste's commentary, written about 1230, is the first solid evidence to show that the *Posterior Analytics* had finally been thoroughly studied and could be put to good use. Grosseteste understands the treatise well, and, even though his commentary is a rather idiosyncratic work which contains Augustinian elements that later scholars were to excise from their interpretations of the text, he became an important commentator on this treatise.⁶

In between the first half of the twelfth century and Robert Grosseteste stands John of Salisbury. In his works we discern the beginning of the comprehensive Aristotelian science that was to dominate the rest of the Middle Ages. But, as I have argued, John is to a large extent looking backward rather than forward. The assimilation of Aristotle has not progressed as far as the structure of the *Metalogicon* has led most scholars to believe.⁷ In many cases, John's thinking must actually be interpreted primarily as part of early twelfth-century philosophy rather than within an Aristotelian framework. This is true even as regards the *Topics*.⁸ Certainly, John had been influenced by the *Ars nova*, and he had incorporated much of the theory concerning principles. However, in the process of obtaining knowledge, not much had changed since Hugh of St Victor and the earlier twelfth century. Only in small glimpses do we see that the *Topics* had had a real influence on John on this subject, and in general it is clear that John still exhibits the characteristics of the pre-*Logica nova*, when references to rhetoric in dialectical works were still very common.⁹ The *Posterior Analytics* in particular

⁴ Edition: O'Donnell, 'Themistius' Paraphrasis of the *Posterior Analytics*.

⁵ See Dod, 'The Study of Aristotle's *Posterior Analytics*', pp. 66–69.

⁶ See Bloch, 'Robert Grosseteste's *Conclusiones*'; Van Dyke, 'An Aristotelian Theory'.

⁷ For two representative statements to this effect, see Dotto, *Giovanni di Salisbury*, p. 78: 'Se al tempo di Abelardo la conoscenza dell' *Organon* non è ancora completata, tre decenni più tardi il Sarisberienese può ormai parlare della "subtilis scientia Posteriorum Analecticorum" e, dunque, egli è il primo autore che mostra una sicura conoscenza della "logica nova" di Aristotele'; Keats-Rohan, 'John of Salisbury and Education', p. 4: 'Most of John's *Metalogicon* deals, as I have said, with Aristotelian logic in what is an able exposition of Aristotle's position.'

⁸ Pace Gerl, 'Zum mittelalterlichen Spannungsfeld', p. 43: 'Salisbury's probable Methode muß unbedingt im Rahmen der aristotelischen Vorarbeit gesehen werden, sonst wird ihr Anspruch nicht begriffen, ihr Verfahren als nur quasi- oder prämethodisch unerheblich.'

⁹ See Fredborg, 'Rhetoric and Dialectic', pp. 170, 174. But it may be noted that John's teacher, Thierry of Chartres, did not generally allow rhetoric to enter discussions of dialectic.

found no proper place in his thinking. For these reasons, it is not strange that the *Metalogicon* was not much read in the Middle Ages.¹⁰

Today it is almost universally accepted that the *Posterior Analytics* is an extremely important work in the history of the philosophy of science. Its importance was also recognized in the thirteenth century, in which period a number of brilliant works on the treatise and generally on science were produced. Therefore, one is easily led to lament the fact that John of Salisbury and others in the twelfth century did not see the potential of the work. But it should be remembered that something very similar was actually the case in the first half of the twentieth century. Amusingly, the development of scholarly understanding and appreciation of the *Posterior Analytics* in the twelfth and thirteenth centuries is very similar to the development that took place in the twentieth century. As late as 1975, Jonathan Barnes lamented the fact that the *Posterior Analytics* was a neglected and unappreciated work despite the brilliance of its argument.¹¹ Today, the situation is quite different, almost the opposite, and, in fact, this was already the case in 1993 when Barnes published the second edition of his translation. Monographs and articles are appearing with short intervals, and the *Posterior Analytics* and its contents take up a large part of most, if not all, general works on Aristotle.¹² Thus, in this respect the twentieth century did not differ substantially from the twelfth and thirteenth centuries. This is not to excuse the twelfth-century attitudes towards this text, but it clearly shows that even those twentieth-century scholars who had much better tools and preconditions regarding the understanding of Aristotle would not necessarily value the *Posterior Analytics* and demonstrative science. In the Middle Ages, it took the hard work of the late twelfth and early thirteenth centuries to secure a solid interpretation of the text and a proper foundation for demonstrative science. John of Salisbury is at the very beginning at this process. In short, he was still in the process of reaching the shoulders of the Aristotelian giant.¹³ It was a 'branch of speculation' that he, along with the rest of the twelfth century, not to mention the twelve-year-old John Stuart Mill, 'was not yet ripe for'.

See Fredborg, 'Rhetoric and Dialectic', p. 175.

¹⁰ *Contra* Keats-Rohan, 'John of Salisbury and Education', p. 1. But contrast her later remarks on the good quality of John's interpretation of Aristotle: Keats-Rohan, 'John of Salisbury and Education', p. 4.

¹¹ See Aristotle, *Posterior Analytics*, trans. by Barnes, pp. xiv–xv, which reproduces the text of the 1975 edition.

¹² For one of the most recent examples, see *Companion to Aristotle*, ed. by Anagnostopoulos.

¹³ John of Salisbury, *Metalogicon*, ed. by Hall, III.4, p. 116. On using the ancients to obtain a higher ground, see Peter Abelard, *Collationes*, ed. and trans. by Marenbon and Orlandi, p. 78; Peter Abelard, *Dialectica*, ed. by De Rijk, v.1, p. 535.

ADAM OF BALSAM AND THE CORNIFICIAN PROBLEM*

The entire *Metalogicon* is claimed by John of Salisbury to be a defence of the *trivium* against an opponent whose name he is unwilling to give us; instead, he dubs him Cornificius.¹ According to this Cornificius, there is no need for the student to study hard to learn the different arts and sciences; he should simply be eloquent. But this is not a skill that is acquired through learning; it is primarily a gift of nature. The student's natural abilities are important, whereas serious and hard studies are not worth the effort. Natural abilities and some practice are all that is needed. Thus, Cornificius wants to throw away thorough education based on the *trivium* and the *quadrivium* in favour of a few Cornifician pointers, rules of thumb, and a little practice. This is a serious distortion of the didactic principle which states that you must take the basic principle(s) from your teacher but perfect it yourself primarily through natural talent.²

* This appendix is a slightly revised version of Bloch, 'John of Salisbury, Adam of Balsham'.

¹ On the 'Cornifician problem' treated in this appendix, see also Alessio, 'Notizie e questioni', 125–35; Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', pp. 140–46; Garfagnini, '*Ratio disserendi*'; Ward, 'The Date of the Commentary on Cicero's *De inventione*'; Tacchella, 'Giovanni di Salisbury e i Cornificiani'; Tobin, 'The Cornifician Motif'; Nederman, *John of Salisbury*, pp. 65–75. On the use of the name 'Cornificius', a name that was not John's invention, see, for example, Tacchella, 'Giovanni di Salisbury e i Cornificiani', pp. 278–79. A poet Cornificius is mentioned by Catullus (*Carmina*, xxxviii) and Ovid (*Tristia*, II.436), but the medieval authors seem to have taken their clue exclusively from the well-known detractor of Virgil.

² For example, Guillaume de Conches, *Philosophia mundi*, ed. by Maurach, xxii, p. 22: 'Etenim principium a magistro, sed perfectio debet esse ab ingenio.' See also Peter Abelard, *Dialectica*, ed. by De Rijk, iv.1, pp. 470–71; Al-Ghazālī, *Tractatus de logica*, v, in 'Logica Algazelis', ed. by Lohr, p. 286.

Certainly, such a complete depreciation of eloquence cannot have been normal, but the occasion for some sort of discussion of the topic 'By what means is eloquence produced' was provided, for instance, by no less an authority than Cicero.³ Similarly, Boethius criticizes those who preferred natural talent (*ingenium*) over studies.⁴ John devotes much of the *Metalogicon*, and much of the *Entheticus*, to discussing the same view.

Scholars have debated the identity of this medieval Cornificius and his followers. Most scholars now believe that Cornificius was fictional, a straw man, so to speak; that is, a personification of everything that John detests in education and learning. Indeed it seems certain that there never was a 'real' Cornificius completely like the one described in the *Metalogicon*.⁵

However, John's attacks are very personal, and remarks in some contemporary authors may also be taken to indicate the existence of a degenerate kind of movement. Therefore, although such vivid descriptions could well be John's way of making the straw man appear more substantial, I still think it is permissible to search for a person or a group of people who might have inspired John's attacks. In any case, that is what I intend to do in the rest of this appendix, and I will continue to speak as if Cornificius can be identified.

In fact, some scholars believe that there was indeed a group of people led by a person who was the target of John's attacks, although John badly distorts the general picture of the former's character. Reginald the Monk (*Reginaldus Monachus*) and master Gualo have been the most popular suggestions. Recently, Nederman has added a third suspect: Arnulf of Lisieux.⁶ On this interpretation, Cornificius is Arnulf embodying all the intellectual flaws of the twelfth century. There are, however, some weighty arguments against such an interpretation —

³ Cicero, *Topica*, § 82: 'Quibus rebus eloquentia efficiatur'.

⁴ Boethius, *De topicis differentiis*, ed. by Nikitas, I.7, p. 20.

⁵ Alessio, 'Notizie e questioni', pp. 126–28; Palazzo, 'Il valore filosofico', p. 101; Tobin, 'The Cornifician Motif', p. 6; Burnett, 'John of Salisbury and Aristotle', p. 20; Guilfooy, 'John of Salisbury'. I thank Hall and Ritchie for stressing this point in a letter to me, which caused me to correct my (exaggerated) first draft of this appendix, although I am afraid that they will still think that I exaggerate.

⁶ On Arnulf, see John of Salisbury, *Historia Pontificalis*, ed. by Chibnall, XIV, XLII, pp. 54–56, 83–86. See Nederman, *John of Salisbury*, pp. 65–75, for a discussion of the problems concerning Cornificius along with Nederman's arguments in favour of Arnulf, and, for other possible identifications, Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 223–24, n. 3, and Tacchella, 'Giovanni di Salisbury e i Cornificiani', pp. 284–85, who do not, however, subscribe to any of the possibilities mentioned.

and the arguments can be easily generalized to cover almost all the identifications that have been proposed until now.

First of all, despite the apparent similarity of Arnulf and Cornificius, the most important element is completely missing from the picture. John is certainly annoyed by Cornificius's behaviour in the 'trifles of the courts',⁷ but the whole argument of the *Metalogicon* is focused on the problems concerning Cornificius's *educational views*. On this issue, Nederman has no evidence relating to Arnulf.

This is not to say that discussion in Canterbury is irrelevant in this connection. On the contrary, in the prologue to book I of the *Metalogicon*, John informs us that he is directing his argument against some of his fellow members of the court (*concuriales*).⁸ But, as regards the content, the proper procedure — or so it seems to me — is to look first at theories that were prominent in Paris in the 1130s and 1140s, not at the trifles of the court and the individuals who were in Canterbury during the 1150s. In this respect, I disagree with a number of scholars.⁹

Second, and related to the first point, it is problematic to start by identifying a single member of the Canterbury court as Cornificius. Arnulf (or someone else at the court) may be Cornificius, but who are the Cornificians? It seems very unlikely that a scholar at the Canterbury court had formed a particular theory of education that he tried to disseminate through other Canterbury scholars and disciples. In fact, the *Metalogicon* provides conclusive proof that this is not possible. For, according to John, the Cornifician tendencies had had to be countered already in Paris by his own masters. Again, the natural move on our part is to look at the Parisian schools to see where such ideas concerning education could have arisen. It certainly did not happen in Canterbury.

In Paris, individual schools flourished in the 1130s and 1140s. As is well known, John studied with practically all the prominent masters of his time, and he obviously enjoyed most of the teaching. Abelard and Gilbert were his preferred masters, and as regards the less prominent ones, he explicitly commented on the things which he did not like. We can be fairly sure that John did not himself study

⁷ See, for example, John of Salisbury, *Metalogicon*, ed. by Hall, I.4, p. 19, and the subtitle of the *Policraticus*, on the 'trifles of the courts' (*nugae curialium*).

⁸ John of Salisbury, *Metalogicon*, ed. by Hall, I.prologus, p. 9.

⁹ McGarry, 'Educational Theory in the *Metalogicon*', p. 659, and Tobin, 'The Cornifician Motif', pp. 5–6, who believe that John's defence is directed at the Canterbury circle in order to fend off the Cornifician tendencies that were prominent in Paris and were now reaching England as well. See also Burnett, 'John of Salisbury and Aristotle', p. 28, who says that John's philosophy of education 'belongs not to the schools of Paris but to the milieu of the translators', which means in the milieu of 'the members of the *curia*'.

in a thoroughly Cornifician environment, although some parts of his education may resemble it. First, John does state that, despite the fact that they were fighting the Cornifician kinds, even the best teachers were affected by Cornificianism.¹⁰ Thus, J. O. Ward claimed that John's teachers Alberic and Robert of Melun also exhibited Cornifician tendencies, and that William of Conches and Richard 'the Bishop' may have altered their teaching to suit Cornifician needs.¹¹ And second, as we have seen, John reserves very harsh words for the school at Mont Ste Geneviève as it degenerated into pure logic after the departure of Abelard.¹² In a well-known passage from the letter known as 'Confession of Faith to Heloise', Abelard himself declined the title 'Aristotle', in the sense of arch-logician, if, as he said, it meant that he would be 'kept away from Christ' (*nolo sic esse Aristoteles ut secludar a Christo*).¹³

But it seems to me that 'Cornifician' is not the right predicate in these cases, and the Mont Ste Geneviève scholars cannot be the Cornifician school. The Abelardians were characterized especially by extremely strict logical argument and adherence to the *ars*. This is in accordance with Abelard's own view: the liberal arts were necessary, not least in order to understand Scripture.¹⁴ The Cornificians are characterized by exactly the opposite features: loose and rhetorical arguments, and the abandonment of argument and *ars* proper.¹⁵ Therefore, we must look for a school that John did *not* attend.

In 1939 R. B. Lloyd claimed, without much argument and ignoring all the difficulties involved, that Cornificius was a class name but with the contents based on Adam of Balsham.¹⁶ In 1954 Minio-Paluello wrote an article on Adam of Balsham's *Ars disserendi* which is, to the best of my knowledge, still the only substantial treatment of Adam's work.¹⁷ Minio-Paluello notes some similarities between the Cornificians and the Parvipontani but concludes:

¹⁰ John of Salisbury, *Metalogicon*, ed. by Hall, 1.5, pp. 20–21.

¹¹ Ward, 'The Date of the Commentary on Cicero's *De inventione*', pp. 228, 235–36.

¹² See above 1.1.1.

¹³ Peter Abelard, '*Confessio fidei ad Heloisam*', ed. by Burnett, p. 152.

¹⁴ Peter Abelard, *Theologia 'Scholarium'*, ed. by Buytaert and Mews, 11.28, pp. 420–21.

¹⁵ Contrast John of Salisbury, *Metalogicon*, ed. by Hall, 1.3, pp. 15–17, with John of Salisbury, *Metalogicon*, ed. by Hall, 11.10, pp. 72–73, for the two groups of scholars.

¹⁶ Lloyd, *The Golden Middle Age*, pp. 92–101.

¹⁷ Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', with the evidence for Adam's *vita*, pp. 159–69. Adam's work has been curiously ignored. See the revealing description in Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', pp. 120–21, n. 2; and things have not improved that much even after the edition: Adam of Balsham, *Ars disserendi*, ed. by Minio-

It cannot be suggested that Adam's school was coming directly under John's criticism: too many features in the description of Cornificius' masters do not agree with what we find either in the *Ars disserendi* or in John's words about Adam. But there is no doubt that some connexion existed between Adam's teaching and that of the 'Cornifician' school. [...] Should we conclude that Adam stood between the two groups [...]?'¹⁸

Finally, in his, unfortunately rather unknown, 1971 article, G. C. Garfagnini pointed out that John's descriptions would fit students of Adam.¹⁹

Lloyd was on the right path, but an exaggerated one. Minio-Paluello's suspicion, in contrast, can be worked out with more precision than he applied himself. Since he was interested primarily in Adam, he did not really try to solve the problems, so did not proceed as far as the evidence allows. Thus, I basically agree with Garfagnini, and this is the view that I will put forward with reference to a particular piece of doctrine found in the introduction to Adam of Balsham's *Ars disserendi*, namely, his conception of the 'basic principles'. Simultaneously, the examination will throw light on this aspect of Adam's thought.

John knew Adam relatively well, or at least he thought so, but he did *not* attend his school. His relationship with Adam was complicated.²⁰ On the one hand, he had great respect for him as a scholar who paid particularly close attention to Aristotle. On the other hand, he disliked the style of presentation in the *Ars disserendi*;²¹ he may not have liked the fact that Adam testified against Gilbert of Poitiers in 1147.²² In particular, he was concerned about Adam's influence on his students. John's own pupil, William of Soissons, was a sad example of this; for even though John may well have been proud that he contributed to his education,

Paluello. For instance, Adam takes up only half a page in Kneale and Kneale, *The Development of Logic*, namely, p. 227, and there is not even an entry on him in *A Companion to Philosophy*, ed. by Gracia and Noone, despite the broad scope of this handbook. But see de Libera, *La Philosophie médiévale*, pp. 331–36, for some discussion.

¹⁸ Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', p. 146. Repeated, apparently with approval, by De Rijk, *Logica Modernorum*, I, p. 63, and Lawn, *The Rise and Decline of the Scholastic 'Quaestio Disputata'*, p. 40. See also Tacchella, 'Giovanni di Salisbury e i Cornificiani', pp. 301–05, for a discussion.

¹⁹ Garfagnini, 'Ratio disserendi', pp. 935–46. I have found no references to Garfagnini's views on the Cornifician problem in later scholarly literature.

²⁰ Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 228, n. 20, even thinks that John may well have changed his opinion of Adam over the years.

²¹ John of Salisbury, *Metalogicon*, ed. by Hall, IV.3, p. 142.

²² Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', pp. 159–60, citing Otto of Freising.

he thought that William developed into a logician of a rather sophistic and overly theoretical kind, and he further believed that Adam was to blame for this.²³

The introduction to Adam's *Ars disserendi* takes up 1–x in Minio-Paluello's edition and has the following structure:²⁴

- i. Introduction proper
- ii. On the basic principles (*initia*)
- iii. The basis of knowledge
- iv. The basis of art
- v. The basis of ability to take part in rational discourse/discussion
- vi. A historical sketch (decay)
- vii. A historical sketch (rebirth)
- viii. The distinguishing features of the *Ars disserendi*
- ix. The subject matter
- x. The goals of the investigation

We must, Adam says (1), proceed from the 'beginning' or 'basic principle' (*initium*).²⁵ But there is not a single principle for the intellectual areas concerning discourse/dialectic: (structured) knowledge of (*scientia*), the art of (*ars*), and the ability to take part in rational discourse/discussion (*facultas disserendi*). These are each based on one or more of the three principles: natural talent, that is, the natural human capacity for quick and independent thinking and comprehension (*ingenium*),²⁶ practical use (*usus*), and art (*ars*), the latter having first been

²³ On John's relationship with Adam, and on William of Soissons and his logical inventions, see above 1.1.1–1.1.2.

²⁴ Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, 1–x, pp. 3–8; see also Minio-Paluello's introductory essay for a sketch of Adam's introduction (pp. xxiv–xxv).

²⁵ In the introduction, Adam consistently uses *initium* for 'basic principle', which is less common than *principium*. However, Calcidius (in his commentary on the *Timaeus*) and Adelard of Bath in Adelard of Bath, *On the Same and the Different*, ed. and trans. by Burnett, and Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, both use *initia*. Later in the *Ars disserendi*, Adam also uses *principium*.

²⁶ On *ingenium* in John's work, see John of Salisbury, *Metalogicon*, ed. by Hall, 1, prologus, 1.11, 1.24, pp. 9–11, 29–31, 51–55; John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 167–74, 1107–08, pp. 117, 177. See also Guillaume de Conches, *Glosae super Platonem*, ed. by Jeaneau, ix, p. 16 (with Jeaneau's *apparatus fontium*): 'Ingenium est vis naturalis ad aliquid cito intelligendum' (*Ingenium* is a natural capacity for quickly apprehending something). William puts this view forward several times, but he is explicit that *ingenium* can be made better by being taught and by study (*doctrina et studio*

established through knowledge, *ingenium* and use.²⁷ Structured knowledge of discourse is based solely on the natural capacity for thought; art is based on both this capacity and on practical use; and the ability of discourse is based on all three principles (II). Chapters III–V describe more elaborately the elements involved in knowledge, art, and ability of discourse. Then, in VI, Adam provides a historical sketch of the decline of discourse: first, he says, the ability decayed; then art was lost; and finally knowledge. This decay was followed by a revival of discourse as a discipline (VII), and Adam intends to provide an important element of this revival with his *Ars disserendi* (VIII). Descriptions of matter, method, and goals conclude the introduction (IX–X).

The central concept, then, is *ingenium*, which is at the heart of establishing both knowledge, art, and ability in discourse; for it is the primary capacity of human beings needed in discourse. Here ‘discourse’ cannot mean simply ‘dialectic’ in a narrow sense. In a description of the reasons for the downfall of *ars disserendi*, Adam mentions as the first cause that no one has ever provided a single, complete description of it; the different elements of the discipline must be gathered from different authors.²⁸ If he was talking about dialectic proper, this statement would be obviously false.²⁹ A description of dialectic was at hand in the works of Boethius, and furthermore Aristotle’s *Topics* was available to Adam. Thus, *ars disserendi* must comprise logic in general,³⁰ as this discipline is viewed

emendatur): Guillaume de Conches, *Glosae super Platonem*, ed. by Jeuneau, xxii, pp. 40–41.

²⁷ Of course, the basic concepts *ingenium* (*natura*), *usus* (*exercitatio*), and *ars* in combination (‘talent’, ‘practice’, ‘theory’) are much older than Adam, going back to the Ancient Greeks (*φύσις, μελέτη, ἐπιστήμη*), and John knew this fact: John of Salisbury, *Policraticus*, ed. by Webb, II, p. 93 (bk VII, chap. 1); John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 1107–08, p. 177. The distinction was known to the Middle Ages through Cicero (for example, *De oratore*, I), Boethius, *In topica Ciceronis*, ed. by Migne, ad. § 7 (PL 64, cols 1039–1174A, col. 1048), and Augustine (*De doctrina Christiana*, IV.3.4; *De trinitate*, x.11.17), in particular. Cicero, *Topica*, § 19, combined with Boethius, *In topica Ciceronis*, ed. by Migne, ad. § 73 (PL 64, cols 1167–69), also informed the medievals that *ingenium*, *usus*, and *ars*, among others, could be the basis of authority. In Antiquity, the terms were primarily important in *rhetoric*, whereas they had gradually been transferred also to *logic* by Adam’s time. On the rhetorical tradition, see Fantham, *The Roman World of Cicero’s De Oratore*, p. 82.

²⁸ Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, VII, p. 5: ‘Quare autem sic causa haec: primo quod a pluribus disperse de arte quaedam, a nullo totam artem ordine explicatam contingit inveniri’ (‘The reason is this: first, that one may find something about the art scattered in different sources; it can not be found systematically explained in any single source’).

²⁹ The claim is similar to, perhaps even modelled on, the equally strange claim in Boethius, *De topicis differentiis*, ed. by Nikitas, IV.1, pp. 72–73, concerning rhetoric.

³⁰ This is in accordance with Cicero’s use of *ars/ratio disserendi*: see, in particular, *De fato*,

by Adam, and *ingenium* is therefore his foundation of logic. This is not to say that his conception of logic is entirely Aristotelian. It is very uncertain to which extent he knew the *Ars nova*, and it seems rather clear that topical logic, rather than syllogistics, is the important kind of logic in his work. Generally, he is *sui generis*.

But *ingenium* is not something that is learned; it is a human capacity given by nature, or, rather, it is (part of) human nature.³¹ Adam does not even indicate that *ingenium* as such can be trained: it is the principle of knowledge, and the next step, the art of discourse, is established not through a change in *ingenium* but by use (*usus*) of the knowledge obtained through it; and *ingenium*, *usus*, and *ars* then combine to establish the ability (*facultas*).³² *Ingenium* does not stand alone, then, but it is *the* central capacity.³³

Suppose now that one of Adam's followers — either one with more superficial theoretical inclinations,³⁴ one who wanted to stress the natural capabilities of man as opposed to the rest of God's creation, or simply someone more lazy — used his master's theory. The goal of the theoretical sciences is pure knowledge, and thus we need only *ingenium*. The practical application through other means that is part of Adam's theory and extremely prominent throughout John of Salisbury's *Metalogicon*³⁵ would not be needed, or at least it would be needed only as a minor element, for *ingenium* would establish pure knowledge on its own. This is in accordance with John's repeated charge that the Cornificians do not want to debate and demonstrate their views; they simply avoid such situations, give empty speeches, and pose as if they have knowledge.³⁶ John claims that they

1: 'totaque est λογική, quam rationem disserendi voco', and further Cicero, *De finibus*, 1.8. The medievals knew the definition through *Topica*, § 6. But see Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, 1.11, pp. 20–21, for distinctions between *logica* and *dialectica*.

³¹ See, for example, Conrad of Hirsau, *Dialogus super auctores sive Didascalon*, ed. by Schepss, p. 76: 'natura doctrina usu, id est ingenio scientia assiduitate'.

³² Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, II, p. 3: 'Scientiae enim disserendi ex ingenio absque ceteris [*scil.* usu et arte] initium, artis autem ex hoc et usu, facultatis autem ex his et arte' ('The basic principle/starting point of knowledge of argumentative reasoning comes from *ingenium* without use/practice and art; that of art comes from both *ingenium* and use/practice; and that of the ability comes from these two as well as art').

³³ These facts about *ingenium*, too, could be supported by the authority of Cicero and Augustine: see Cicero, *De oratore*, 1.113; Augustine, *De doctrina Christiana*, IV.3.4.

³⁴ John certainly thought that William of Soissons (mentioned above) developed into this kind of thinker in Adam's school. In general, the schools in the first half of the twelfth century had strong theoretical inclinations.

³⁵ See also Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 251, n. 85.

³⁶ John of Salisbury, *Metalogicon*, ed. by Hall, 1.3, pp. 15–17.

do not actually have such knowledge, but in the Parvipontanean conception of knowledge, they do: knowledge is what *ingenium* has brought them. In a debating situation the borders between the more important (knowledge based on *ingenium*) and the less important (art and ability based on practical use and, in the latter case, art) have been crossed. It seems reasonable that scholars who are convinced that they know best are more likely to be fostered in a rather exclusive school, which is closed to outsiders and hangs on to particular dogmas, than in an open and competitive environment. John of Salisbury saw the Parvipontani precisely like this, as an exclusive school that hung on to its own dogmas.³⁷

Thus, it takes only a minor change in Adam's theory to make a Cornificius. In fact, there may be evidence that Adam himself unwittingly provided even more of the foundation. John refers approvingly to 'a certain wise man' (*sapiens quidam*) who had said that '*ingenium* proceeds from nature, it is furthered by *usus*, it is blunted by excessive work, and sharpened by moderate exercise.'³⁸ This sage has never been identified,³⁹ but seeing (1) that his conceptual apparatus matches Adam's very well, (2) that John does not reveal his name, and (3) that the kind of gratitude he feels towards him is more suitable in relation to Adam than for example to one of John's own teachers,⁴⁰ I conjecture that John is, in fact, referring to him. If this is correct, then the Cornificians would have had the authoritative statement by their own master that they should not exaggerate their studies beyond proper *usus*, but had misinterpreted it grossly.⁴¹ The *artes* are not part of

³⁷ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, IV.3, pp. 72, 142.

³⁸ John of Salisbury, *Metalogicon*, ed. by Hall, I.11, p. 31: 'Unde egregie sapiens quidam, cui dicti habeo gratiam, ait: "Ingenium a natura proficiscitur, usu iuvatur, immoderato labore retunditur, et temperato acuitur exercitio."'

³⁹ Webb has no entry on him in his *apparatus fontium*, and there is nothing in Hall or McGarry on this issue either. John of Salisbury, *Metalogicon*, trans. by Lejeune, p. 128, n. 93, simply states: 'On ignore qui est ce sage. Un contemporain de Jean?'

⁴⁰ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 72, and, in particular, John of Salisbury, *Metalogicon*, ed. by Hall, III.3, p. 114: 'Deridebat eos noster ille Anglus Peripateticus Adam, cuius vestigia sequuntur multi, sed pauci praepediente invidia profitentur [...]. Habui enim hominem familiarem assiduitate colloqui et communicatione librorum et cotidiano fere exercitio super emergentibus articulis conferendi, sed nec una die discipulus eius fui. Ei tamen habeo gratias quod eo docente plura cognovi' (That English Peripatetic, our Adam [of Balsham], who has many followers, but few who are willing to admit it, deterred, as they are by bad repute [...] As a result of our many conversations, our exchanging of books and our almost daily discussions of topics that had arisen, we became friends, but I was not his student for so much as a day. Still, I am grateful to him, because I have learned a lot from him) (my italics in the translation).

⁴¹ For a similar case concerning Gilbert of Poitiers and his students, see John of Salisbury,

the quotation, and therefore John himself has to spell out the consequences for establishing them.

The degenerate Cornifician theory is also in complete accordance with the sketch that Adam provides. Decay from (a) the ideal state of knowledge, art, and ability goes backwards: first (b) 'ability' is lost, then (c) the 'art', and finally (d) 'knowledge' disappears.⁴² On this ladder of degeneration, the Cornificians are found at (c): they retain knowledge and the high regard for *ingenium*, and perhaps they use the knowledge to a small degree,⁴³ but nothing else. Cornificius, then, is a degenerate Parvipontanus.

A comparison with Hugh of St Victor's conception of the origin of logic is instructive here.⁴⁴ Hugh is not concerned with *ingenium* at all; natural gifts and intellect are not prominent in his analysis. But *usus* and *ars* are crucial. Of course, mankind wrote and spoke before the discovery of logic, Hugh says, but there were

Historia Pontificalis, ed. by Chibnall, x, p. 10 (quoting Gilbert, who is defending himself against charges of heresy): 'Fateor me plures habuisse discipulos, qui me quidem omnes audierunt, sed quidam minus intellexerunt: quod opinati sunt scripserunt de corde suo, non de spiritu meo' (I confess that I have had many students, who admittedly all heard me lecture, but some of them understood very little. The opinion that they have formed and written down constitutes their own interpretation, not my meaning).

⁴² Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, VI, p. 5: 'Postremo autem — et arte ista et ceteris ex ista multipliciter et velut iam satis ad cognitionem explicatis — usum disserendi et sic ad disserendo explicata attendendi paulatim primo rarescere, omnino deinde praetermitti accidit. Quare — ad id ad quod ars nullis attendentibus — disserendi primo facultatem, inde artem, deinde scientiam posteriorum fugisse cognitionem necesse est; quare et singulorum quae edisseruntur artificiosam intelligentiam nullam esse' (Later — when both this art and others that had arisen from it had been thoroughly explained and were almost sufficiently understood — the use of argumentative reasoning, and so also the use of attending to that which had been explained by argumentative reasoning, started slowly to become rare, until it was eventually completely ignored. Since nobody attended to the subject matter of the art, it therefore happened as a necessary result, that first the ability for argumentative reasoning, then the art, and finally the knowledge of that which followed was no longer understood. Thus, not even of the individual subjects on which people reasoned by argument was art used to gain understanding).

⁴³ On the position of use/practice in the Cornifician state, which should equal the degenerate state described by Adam, see John of Salisbury, *Metalogicon*, ed. by Hall, I.6, p. 23 (= John's summary of a Cornifician view, with probable allusions to Cicero's *De oratore* and Virgil's *Georgics*): 'Usus magistrum reddit [...] Assiduitas operis in quavis arte praestantissimum facit opificem.' On the surface, this would seem to imply a rather high level of training, but, since John also tells us that the Cornificians are unwilling to debate with other scholars, one must conclude that they do not train properly in the original Parvipontanean sense, that is, in the way that Adam wanted scholars to train.

⁴⁴ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, I.11, p. 21.

no general rules or structures to guide human beings. 'All sciences/knowledge were founded in use before they were [structured] in art' (omnes [...] scientiae prius erant in usu quam in arte).⁴⁵ So, Hugh would consider the Cornifician position a return to the pre-logical period. However, it is to be noted that Hugh apparently does not see any such signs in the 1120s. His previously cited 'we have many who study, but few who are wise' is a topos.⁴⁶

I see two problems with the suggestion that Cornificius was a Parvipontanus of some kind. The first is easily solved, but the second is not. First, a central part of John's charge is that Cornificius wants to abolish the *trivium*, and logic in particular. But could this really be true of a Parvipontanus? In fact, the answer is 'yes', if he has degenerated to the stage of accepting only *ingenium* and, to some extent, *usus*. For logic is an art, the *ars disserendi*, and art is not part of his knowledge. Even if he did accept this particular *ars*, one might bring him into accord with John's description by letting him take *ars disserendi* in the more general sense of 'art of discourse' or 'the art of speaking well'.⁴⁷ Since the basic concepts *ingenium* and *usus* are originally taken from rhetorical theory, this is not actually far fetched. It could be construed simply as a kind of return to the ancient models, or simply, in accordance with Hugh's view, a previous stage. Finally, one should also note that John is obviously exaggerating his descriptions of the Cornifician movement.

Second, if one wants the Parvipontani to be Cornificians, how can Adam then describe not only the decay but also the rebirth of *ars disserendi* as having taken place *before* 1132/3? Furthermore, Adam seems to think that the degenerate scholars have been finally defeated.⁴⁸ But in 1132/3 John of Salisbury had not yet even come to Paris, and he would therefore have had no opportunity to meet Cornificians. However, it is clear from the *Metalogicon* that he believes them to be still very much alive. Adam and John are clearly talking about the same phenomenon, but their chronologies are different and incompatible, even if one allows that teachers with similar tendencies preceded Cornificius himself.⁴⁹

⁴⁵ In fact, Hugh wants to generalize the *usus-ars* explanation to cover all the seven liberal arts, but this is irrelevant for the present purpose.

⁴⁶ Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, III.3, p. 53: 'multos studentes, paucos sapientes invenimus'.

⁴⁷ Alexander Neckham, who is very critical of excessive subtlety in logic despite his admiration for Adam, could never accept a thoroughly Parvipontanean logic: Alexander Neckham, *De naturis rerum*, ed. by Wright, chap. 174, p. 311, for his criticism of Parisian logic.

⁴⁸ See also John of Salisbury, *Metalogicon*, ed. by Hall, I.5, pp. 20–22.

⁴⁹ Alessio, 'Notizie e questioni', distinguishes between 'Precornificiani' and 'Cornificiani'.

There are problems here that I cannot solve, and, to the best of my knowledge, no scholar can claim to have solved the chronological questions concerning the Cornifician movement. Still, it seems probable that both Adam and John are a little cavalier as regards the facts. Concerning Adam's descriptions, it may be noted in particular that he finds it very easy to describe both the decay and the rebirth of studies in a Parvipontanean terminology, which might indicate that Adam actually saw this development in someone who accepted his basic principles. It is certainly easier to describe a development that is actually based on principles identical to one's own than a development based on completely different basic concepts.

Thus, the second objection above may suggest that Cornificius is not a real Parvipontanus after all, but someone inspired by the kind of thoughts that also fuelled Adam's school. Yet, there is something odd about Adam's general sketch of the decay. For is he seriously suggesting that logic as such had been almost abandoned in the first quarter of the twelfth century? This would seem extremely unreasonable.⁵⁰ And if he is referring to a specific branch of logic such as dialectic proper, which would accord with remarks in the *Metalogicon*,⁵¹ then he would seem to be using the phrase 'ars disserendi' inconsistently. For, as I noted above, it should signify logic broadly speaking, if the remarks in the following chapter (VII) are to make sense. Perhaps Adam's sketch cannot actually be regarded as historically correct but is simply a way of attacking contemporary views that are based on a foundation similar to Adam's — whether or not they are, strictly speaking, part of Adam's school — but, in his view, much distorted. In any case, there is no doubt that the Cornificians are very similar to, if not actually a degenerate kind of, Parvipontani, whether or not they were, or had been, actually part of Adam's school.

To the above, Minio-Paluello's no less convincing arguments can be added. The most important is divided into two related ones.⁵² First, John of Salisbury mentions that a number of terms are for his taste used much too frequently by the Cornificians.⁵³ These include *conueniens*, *inconueniens*, *argumentum*, and *ratio*.

See further Tacchella, 'Giovanni di Salisbury e i Cornificiani', pp. 280–81, for the impossibility of establishing a certain chronological framework, and his notes 22–25 for further references.

⁵⁰ John of Salisbury claims that those who wanted to abandon logic had had some influence, but that they had always been fought by more prudent masters: John of Salisbury, *Metalogicon*, ed. by Hall, I.5, pp. 20–21. Even this must be an exaggeration.

⁵¹ John of Salisbury, *Metalogicon*, ed. by Hall, III.5, IV.24, pp. 119–20, 162.

⁵² Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', pp. 140–46.

⁵³ John of Salisbury, *Metalogicon*, ed. by Hall, I.3, pp. 15–17.

Minio-Paluello observed that ‘these words occur over and over again in several passages of Adam’s *Ars disserendi*, with an insistence which would justify John’s charge.’⁵⁴ Second, the really interesting thing is that the second recension of Adam’s work, made later in the twelfth century, has altered the text of particularly the passages containing these terms. ‘It is clear that the “editor” of the second recension was careful to avoid as much as possible the use of those three words, at least when they occurred with a technical meaning.’⁵⁵ These are both very strong arguments, although the number of uncertainties concerning the circumstances of the second revision may be said to weaken the second argument. For instance, if accepted, it would imply either that John’s criticism actually had an impact on contemporary philosophical schools (which I consider highly unlikely); or that more prominent masters and scholars voiced exactly this kind of criticism, perhaps even in John’s schooldays; or that Adam himself revised it based on his conversations with John, but this seems to be impossible due to the nature of the second recension.⁵⁶ Thus, we would also have to raise questions concerning the second recension of Adam’s *Ars disserendi*. Who made it? Was it primarily Adam’s own views that were incorporated? Or, did other Parvipontanean scholars (and how many?) contribute the major part? Minio-Paluello recognized at least some of these problems, but he had no solution.⁵⁷ As a supplement to the above, Minio-Paluello stated as a third, minor argument that John criticized the Cornificians for not allowing non-logical examples, like ‘ass’, ‘man’, and so forth, in logical discussion.⁵⁸ In the first recension, Adam chose all his examples from logic itself, and Minio-Paluello points out that it is only in the second recension that examples are chosen from other disciplines, maybe as a result of criticism levelled against the original use of terms.⁵⁹

⁵⁴ Minio-Paluello, ‘The “Ars disserendi” of Adam of Balsham’, p. 143.

⁵⁵ Minio-Paluello, ‘The “Ars disserendi” of Adam of Balsham’, p. 145.

⁵⁶ See the description in Minio-Paluello, ‘The “Ars disserendi” of Adam of Balsham’.

⁵⁷ Minio-Paluello, ‘The “Ars disserendi” of Adam of Balsham’, p. 132: ‘[T]he views of Adam and those of other logicians which have been worked into the structure of the *Ars* by the editor of the second recension cannot at present be separated.’

⁵⁸ John of Salisbury, *Metalogicon*, ed. by Hall, 1.3, p. 17.

⁵⁹ However, in the same chapter (John of Salisbury, *Metalogicon*, ed. by Hall, 1.3, pp. 15–17), John criticizes the Cornificians for their strange (non-logical) examples. See also the amusing, and anti-logic, contemporary satire by Vitalis of Blois, for example, the following two passages: ‘Vital de Blois: *Geta*’, ed. and trans. by Guilhou, 163–64, 409–11, pp. 41, 52: ‘Sed pretium pene miranda sophismata porto. // Iamque probare scio quod sit asellus homo [...] Sic sum, sic non sum. Pereat dialectica per quam // sic perii penitus. Nunc scio: scire nocet.

Finally, I shall add a few simple observations. First, John stresses the fact that he was never Adam's pupil.⁶⁰ If the Cornificians were students of his, John would have had good reasons to distance himself. Second, it seems that the Cornificians did not generally recognize authorities except when they were useful. Thus, Seneca was adduced as an authority, because he had stated that the arts does not make a man good.⁶¹ Similarly, in the *Ars disserendi*, Adam stresses his own originality in the art of logic;⁶² he wants 'to free logic of all complicated accretions and superstructures',⁶³ that is, the unfortunate terminology and theories with which it has been burdened by previous authors.⁶⁴ John describes him as afflicted by intellectual jealousy, and the entire school, as described by John, is self-sufficient.⁶⁵ But Adam himself was a brilliant thinker who evaluated previous doctrines before discarding them, whereas one might easily imagine a lesser thinker of his school discarding everything that preceded, in apparent accordance with his master's teaching. Third, Ward has pointed to *insipientia* as a character trait found, fairly or not, in the descriptions of both Adam and Cornificius.⁶⁶ Fourth, and finally, in the *Entheticus*, John apparently refers to a Parvipontanus immediately after having described unreasonable scholars who reject the study of the ancient authors.⁶⁷ The Parvipontanean school is not the

Cum didicit Geta logicam, tunc desiit esse' (I come here with some truly wonderful sophisms as my prize. I am now capable of proving that a man is an ass [...]) Thus I am, thus I am not. Damn that dialectic by which I have been thus completely destroyed! I know now: to know is harmful. When Geta learned logic, he ceased to be).

⁶⁰ See the quotation above p. 14 and n. 51.

⁶¹ John of Salisbury, *Metalogicon*, ed. by Hall, I.22, pp. 49–50. Seneca, *Epistulae morales*, 88. On Seneca in the Middle Ages, see Nothdurft, *Studien zum Einfluss Senecas*. On John's use of, and respect for, Seneca, see John of Salisbury, *Policraticus*, ed. by Webb, II, pp. 317–20 (bk VIII, chap. 13).

⁶² Minio-Paluello, in Adam of Balsham, *Ars disserendi*, ed. by Minio-Paluello, VIII, p. 6. See Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', pp. 116, 135. However, both Alberic and Robert of Melun did the same, according to John: John of Salisbury, *Metalogicon*, ed. by Hall, II.10, p. 71.

⁶³ Minio-Paluello, 'The "Ars disserendi" of Adam of Balsham', p. 116.

⁶⁴ *Contra*, or so it would seem, Adelard of Bath, *Questions on Natural Science*, ed. and trans. by Burnett, prologus, p. 82, who claims that Latin scholars at the beginning of the twelfth century did not like novelties. See also my discussion of John's originality in 1.2 above.

⁶⁵ John of Salisbury, *Metalogicon*, ed. by Hall, II.10, IV.3, pp. 72, 142.

⁶⁶ Ward, 'The Date of the Commentary on Cicero's *De inventione*', p. 228, n. 20.

⁶⁷ John of Salisbury, *Entheticus Maior*, in John of Salisbury, *Entheticus Maior and Minor*, ed. by Van Laarhoven, verses 49–66, 81–98, pp. 109, 111.

only one mentioned, but it is striking that novelties and lack of method are much stressed in this section of the *Entheticus*.

All answers to the Cornifician problem must be speculative. Contrary to all previous suggestions,⁶⁸ the present one has, I believe, the advantage of beginning from the issue that is at the heart of the discussion: educational theory. We still need a real name for Cornificius, if he ever existed, but I believe that central aspects of the Cornifician views make more sense in the light of Parvipontanean theory than in any other context.⁶⁹ It may well be true, as Minio-Paluello conjectured, that Adam of Balsham stood between the Cornificians and other educational theories in the first part of the twelfth century. Indeed, he probably did so in a much more direct way than Minio-Paluello suspected. Namely, as Garfagnini argued, either (1) as the actual teacher of Cornificius Parvipontanus, or (2) as part of the theoretical foundation of the Cornifician views, or (3) as part of the foundation of a theoretical movement of the Cornifician kind.

⁶⁸ Minio-Paluello and Garfagnini being, of course, partial exceptions.

⁶⁹ For instance, Godman, *The Silent Masters*, p. 165, thinks that Cornificius reflects an extreme version of an imaginary pupil described by Hugh of St Victor, *Didascalicon de studio legendi*, ed. by Buttner, VI.3, p. 115.

THIERRY OF CHARTRES'S *HEPTATEUCHON*

The following list of the texts in Thierry of Chartres's *Heptateuchon* (Chartres BM, MS 497 and Chartres BM, MS 498, lost during the Second World War but extant in microfilm form) is based upon Evans, 'The Uncompleted *Heptateuch* of Thierry of Chartres', and Burnett, 'The Contents and Affiliation of the Scientific Manuscripts'. In addition, I have consulted an unpublished list made by K. M. Fredborg, and she has given me her expert opinion on different matters concerning the texts.

Chartres BM, MS 497 ends with Aristotle's *Topics*; Chartres BM, MS 498 begins with Aristotle's *Sophistici elenchi*.

Prologus (2^r)*Grammatica*

Accessus to Donatus (2^r)

Donatus, *Ars Minor* (2^r–6^r)

Anonymus, 'Prima declinatio' (6^r–8^r)

Introduction to Donatus, *Ars maior* (8^r)

Donatus, *Ars maior* 1–6 (8^r–10^r) (ending with an incomplete list of headings for the following sections)

Priscianus, *Institutiones grammaticae* (11^r–157^v)

Priscianus, *Preface to the minor works* (158^r)

Priscianus, *De figuris numerorum* (158^r–59^v)

Priscianus, *De metris fabularum Terentii* (159^v–62^v)

Ps.-Priscianus, *De accentibus* (162^v–65^v)

Priscianus, *Preface to De duodecim versibus Virgili* (165^v)

Priscianus, *De duodecim versibus Virgilii* (165^v–83^r)

Priscianus, *Institutio de nomine, pronomine et verbo* (183^v–88^r)

Anonymus, 'quae est agnitio primae declinationis [...]' (188^r)
 Donatus, *Ars grammatica: De barbarismo* (188^r–90^v)

Rhetorica

Cicero, *De inventione* (191^r–229^v; foliation jumps 209–19)
Auctor ad Herennium (230^r–56^v)
 Cicero, *Partitiones oratoriae* (257^r–65^v)
 Iulius Severianus, *Ars rhetorica* (266^r–70^v)
 Martianus Capella, *De nuptiis v: Rhetorica* (270^v–79^v)

Dialectica

Porphyrus, *Isagoge* (280^r–84^r)
 Aristoteles, *Categoriae* (284^r–91^v)
 Aristoteles, *De interpretatione* (291^v–96^r)
 Aristoteles, *Analytica priora* (296^r–318^v)
 Aristoteles, *Topica* (319^r–49^v)

[New manuscript]

Aristoteles, *Sophistici elenchi* (2^r–12^r)
 Boethius, *Introductio ad syllogismos categoricos* (12^r–22^r)
 Boethius, *De syllogismo categorico* (22^r–33^v)
 Apuleius, *De interpretatione* (33^r–37^r)
 Boethius, *De syllogismis hypotheticis* (37^r–52^r)
 Cicero, *Topica* (52^v–58^r)
 Boethius, *De topicis differentiis* (58^r–73^v)
 Boethius, *De divisione* (73^r–78^r)
 Victorinus, *De definitione* (78^v–85^r)

Arithmetica

Boethius, *De institutione arithmetica* (86^r–113^v)
 Gerbert of Aurillac, *Scholium in De institutione arithmetica* (114^r)
 Martianus Capella, *De nuptiis VII: Arithmetica* (114^r–22^r)
 Euclid, *Elementa VII–IX* (Adelard II version) (122^r–24^v)

Musica

Boethius, *De institutione musica* I.1–II.21 (125^r–40^v) (*mutil.*, the next 104 folia are missing)

Geometria

Euclid, *Elementa*, XIV.8–XV.5 (Adelard II version) (141^{r-v})

Ps.-Boethius, *Geometria* I (141^v–43^r)

Mensura sunt tria genera [...] (= parts of different treatises) (143^r–53^r)

Euclid, *Elementa* (excerpt of book I) (153^r)

Gerbert of Aurillac, *Geometria* II–III (153^r–54^v)

Ps.-Boethius, *Geometria* II (155^r–65^v)

(Diagram of an abacus) (166^v–67^r)

Anonymus, 'Omnis numerus aut ex digito [...]' with division and fraction tables (167^v) (mistakenly identified as Garlandus's *De abaco* in different catalogues)

Anonymus, 'Si igitur vis scire [...]' (168^r)

Hermannus Contractus's Fraction table (168^v)

Hermannus Contractus's Fraction table, different from the former (169^r) (169^v–70^r blank)

Astronomia

Hyginus, *Astronomica* I–II.4 (*mutil.*) (170^v–73^v)

Ptolemaeus, *Praeceptum canonis Ptolomei*, text (174^r–84^r)

Ptolemaeus, *Praeceptum canonis Ptolomei*, tables (184^v–97^v)

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INDEX NOMINUM ET LOCORUM

- Abbo of Fleury: 133
- Abbreviatio Monacensis:
*Commentum super Boetium De duabus
in Christo (= Contra Eutychen):*
147 n. 300
- Commentum super Ebdomadas Boetii:*
41 n. 85, 143 n. 277
- Abelard *see* Peter Abelard
- Abraham Ibn Daud: 58
- Accessus to Donatus:* 207
- Achilles: 176 n. 444
- Ackrill, J. L.: 75 n. 60–61
- Adam of Balsham ‘Parvipontanus’
(Parvipontaneans): xv, 1, 12–14,
14 n. 49, 14 n. 51, 15, 15 nn. 53–54,
16–17, 17 n. 61, 20–21, 21 n. 77,
28, 31, 33, 43, 43 n. 96, 64, 65 n. 9,
72, 114, 116–17, 117 nn. 165–66,
144, 144 n. 292, 146, 175 n. 438,
187, 194, 194 n. 17, 195 n. 28, 196,
196 n. 23, 196 n. 25, 197, 197 n. 27,
198, 198 n. 34, 199, 199 n. 40, 200,
200 n. 43, 201–02, 204
- Ars disserendi:* 14 n. 48, 14 n. 52, 31 n. 31,
72, 72 n. 47, 113, 114 n. 148,
116 n. 163, 175 n. 438, 194 n. 17,
194–95, 195 n. 19, 196, 196 n. 24,
196 n. 25, 197, 197 n. 28, 198 n. 32,
200 n. 42, 203–04, 204 n. 62, 205
- Adelard of Bath: 6, 21–22, 46, 59–60, 69,
73, 76, 89 n. 26, 106, 124, 149, 162,
168 n. 403
- On the Same and the Different:* 15 n. 52,
46 n. 110, 51 n. 136, 59 nn. 179–80,
73 n. 53, 92 n. 46, 106 n. 114,
160 n. 358, 162 n. 369, 185 n. 486,
196 n. 25
- Questions on Natural Science:* 21 n. 78,
46 n. 111, 59, 59 nn. 178–79,
73 n. 54, 74 n. 55, 147 n. 300,
196 n. 25, 204 n. 64
- Adenulph of Anagni: 102
- Adrian IV: 1, 1 n. 4
- Africa: 126, 126 n. 206
- Al-‘Āmirī: 172
- Al-Farabi:
On the Sciences (De scientiis): 54, 58,
54 n. 150, 125 n. 204
- Über den Ursprung der Wissenschaften:*
60 n. 182
- Al-Ghazali: 22, 60, 89 n. 26, 105, 111, 136
- Intentions of the Philosophers:* 54, 58
- Tractatus de logica:* 54 n. 152,
61 nn. 187–88, 105 n. 105,
109 n. 123, 110 n. 133, 111 n. 135,
124 n. 199, 125 n. 204, 136 n. 249,
136 n. 252, 191 n. 2
- Al-Khwārizmī: 209
- Al-Kindi: 58 n. 176
- Alan of Lille:
Regulae caelestis iuris: 143, 143 n. 278
- Alberic: xiv, 2, 8, 20, 41, 51, 98, 194,
204 n. 62
- Albert the Great: 38, 45

- d'Alverny, M.-T.: 41 n. 89
 Alessio, F.: 191 n. 1, 192 n. 5, 201 n. 49
 'Alexander' (? Greek commentator): 34,
 34 n. 48, 67, 124, 136–37, 157,
 169, 169 nn. 406–09, 170–71,
 171 nn. 418–19, 172
 Alexander III: 2
 Alexander Neckham: 19, 43, 43 n. 96,
 58, 63, 63 n. 1, 137, 154, 161–62,
 169 n. 406, 188, 201 n. 47
 Corrogationes Promethei: 144
 De naturis rerum: 19 n. 69, 63, 63 n. 2,
 161 nn. 363–64, 162, 201 n. 47
 Anagnostopoulos, G.: 189 n. 12
 Anonymi:
 De locis argumentationum: 36 n. 61, 133,
 133 n. 231, 134, 134 n. 234
 Dialectica Monacensis: 36, 36 n. 64
 Logica 'Cum sit nostra': 96 n. 62
 'Omni numerus aut ex digito ...': 209
 'Prima declination ...': 207
 Prooemium in Topica
 Aristotelis Philosophi: 101 n. 90,
 102 n. 91
 'Quae est agnitio primae
 declinationis ...': 208
 'Si igitur vis scire ...': 209
 Anonymus Aurelianensis I: 80–81, 170,
 170 n. 416
 Commentarium in Sophisticos elenchos:
 184 n. 481
 Anonymus Aurelianensis II: 155 n. 331,
 170–71, 172 n. 422, 172 n. 424
 De parallogismis: 73 n. 49, 113 n. 142,
 134, 134 n. 235, 143 n. 277, 169,
 169 nn. 408–10, 169 n. 412,
 170 n. 413, 170 nn. 416–17, 170,
 171 nn. 418–19, 175 n. 436
 Anonymus Aurelianensis III: 32, 100, 113,
 125, 149 n. 304
 Anonymus Cantabrigiensis: 31, 60, 172
 Commentarium in Aristotelis Sophisticos
 elenchos: 124 n. 196, 127 n. 211,
 135 n. 239, 136 nn. 250–51,
 172 n. 421
 Anonymus Cordubensis:
 Questiones super primum librum
 Posteriorum: 124 n. 197
 Anonymus (Mahometh?, student of Al-Kindi):
 Liber introductorius in artem logicae
 demonstrationis: 54, 54 n. 151,
 55 nn. 154–59, 56, 56 nn. 160–62,
 56 n. 164, 57 nn. 165–72, 58,
 58 n. 173, 60, 76, 91, 91 n. 41, 109,
 109 nn. 124–25, 113, 113 n. 143,
 143 n. 284, 144 n. 285, 145,
 150 n. 308, 157–58, 163 n. 374
 Anonymus d'Orvillensis: 165 n. 388
 Anonymus Parisiensis: 80
 Anselm: 47
 Antisthenes: 88 n. 23
 Antolic, P.: 65 n. 12
 Apuleius: 103, 174 n. 430
 De interpretatione: 208
 On Plato and his Doctrine (De Platone
 et eius dogmate): 47 n. 114
 Arabic: xiv, 6, 33, 34 n. 48, 37 n. 69,
 41 n. 89, 44, 52–61, 61 n. 191, 62,
 65, 66 n. 14, 67, 73, 91, 120, 124,
 124 n. 204, 126, 126 n. 206, 136–37,
 143, 145, 157, 172, 187
 Arcesilas (Arcesilaus): 88
 Aristippus *see* Henry Aristippus
 Aristotle: *passim*
 Categories: 17 n. 59, 27, 27 n. 3, 28, 33,
 35 n. 53, 75, 84–85, 92, 92 n. 47, 93,
 93 n. 47, 97, 97 n. 68, 103, 103 n. 96,
 116, 128, 163, 166, 181 n. 467, 208
 De anima: 44, 166
 De memoria: 166
 De intelligentia (pseudo-Aristotelian): 166
 De interpretatione: 27, 27 n. 3, 28, 33, 75,
 84–85, 92–93, 93 n. 47, 97, 97 n. 68,
 128, 166, 181 n. 467, 208
 De iuventute: 166
 De longitudine: 166
 De morte: 166
 De respiratione: 166
 Ethica Nicomachea: 127 n. 208,
 138 n. 261, 143 n. 280, 177 n. 445
 Mathematica (not extant): 147 n. 300
 Metaphysica: 127 n. 208, 147 n. 300, 166,
 177 n. 445
 Organon: 15, 27, 35, 43–44, 44 n. 98, 52,
 61, 75, 81, 85, 92–93, 97, 106, 120–
 21, 141, 145, 147, 166, 168, 173
 Physics: 53, 147 n. 300, 166
 Prior Analytics (APr.): 27, 31–32, 32 n. 36,

- 33, 35, 35 n. 53, 67 n. 23, 73 n. 51, 79, 79 nn. 83–84, 84–85, 92 n. 47, 93, 97, 97 n. 69, 100, 102, 117 n. 165, 118–21, 128, 133, 149 n. 304, 152 n. 318, 159, 159 n. 350, 165, 165 n. 388, 166, 181 n. 467, 182 n. 470, 208
- Problemata*: 44 n. 98
- Posterior Analytics (APo.)*: xiv, xv, 6–7, 20, 22 n. 83, 27, 33, 34 n. 46, 34 n. 48, 35, 35 n. 51, 35 n. 53, 35 n. 55, 36, 36 n. 64, 37, 37 nn. 68–70, 38, 38 n. 71, 38 n. 75, 39, 39 n. 76, 39 n. 78, 40–41, 41 n. 85, 43, 43 n. 96, 54, 57 n. 166, 61, 61 n. 189, 62–63, 63 nn. 1–2, 64, 64 n. 4, 65–69, 69 n. 31–32, 70, 70 n. 34, 71, 74 nn. 56–57, 76, 79, 79 n. 83, 84–85, 85 n. 5, 88, 88 n. 21, 93, 97, 100, 100 n. 86, 118–21, 121 nn. 185–86, 122–23, 123 n. 194, 124, 125–26, 126 n. 205, 126 nn. 206–07, 127 n. 209, 128, 128 nn. 213–15, 130–31, 131 n. 223, 133–34, 134 n. 237, 135, 139 nn. 264–65, 140, 140 n. 267, 140 n. 269, 141–43, 143 n. 280, 143 n. 282, 145–46, 146 n. 299, 147–49, 149 n. 304, 150, 150 n. 306, 150 n. 308, 151, 154, 154 n. 315, 153, 153 n. 322, 153 n. 325, 154, 154 n. 329, 155–56, 156 nn. 333–34, 157–59, 159 n. 349, 160, 160 n. 355, 161–64, 164 nn. 376–79, 165, 165 n. 388, 166–67, 167 n. 393, 168, 168 n. 404, 169, 169 n. 406, 170, 170 n. 415, 170 n. 417, 171, 171 n. 420, 172–73, 177 n. 446, 179 n. 456, 181 n. 467, 182, 182 n. 470, 182 n. 470, 185 n. 484, 187, 187 n. 3, 188–89, 189 n. 11
- Sophistici elenchi*: 18 n. 63, 27–28, 28 nn. 4–5, 28 n. 8, 31–33, 41, 41 n. 87, 52 n. 79, 140, 60, 65, 67, 67 n. 22, 68, 68 n. 23, 73 n. 51, 74 n. 59, 79 n. 83, 80–81, 84–85, 93, 95 n. 56, 97, 115 n. 154, 117, 117 n. 165, 123–24, 128, 134, 134 n. 238, 135, 144, 144 n. 292, 147 n. 301, 152, 157, 166, 168, 170, 172 n. 425, 207–08
- Topics*: xiv, xv, 27–28, 28 n. 9, 29–30, 30 n. 25, 31, 31 n. 29, 31 n. 31, 32, 32 n. 36, 33, 33 n. 44, 35 n. 53, 35 n. 55, 61 n. 191, 67 n. 22, 71, 73 n. 51, 74 nn. 58–59, 79, 79 n. 83, 84–85, 88 n. 20, 92, 92 nn. 46–47, 93, 93 n. 47, 98, 99, 99 n. 78, 100, 100 nn. 84–85, 101, 101 nn. 89–90, 102, 102 n. 95, 103, 103 n. 96, 103 n. 99, 104, 105 n. 109, 106, 106 n. 110, 110 n. 129, 117 n. 117, 109, 109 n. 127, 110, 110 n. 130, 113, 113 n. 145, 115, 115 n. 154, 115 n. 156, 116, 117, 117 n. 164, 117 n. 165, 118, 119, 119 n. 174, 120 n. 176, 121, 121 n. 184, 122 nn. 189–91, 123–24, 128, 128 n. 217, 148, 148 n. 302, 149 n. 304, 150 n. 306, 150 n. 309, 152–53, 164, 164 n. 381, 166, 166 n. 391, 168 n. 405, 169, 169 n. 411, 173, 180, 181 n. 467, 197, 207–08
- Arnulf of Lisieux: 192, 192 n. 6, 193
- Ars Meliduna*: 76
- Ars nova*: 24, 33, 45 n. 104, 185, 188, 198
- Ars vetus*: 36, 76
- Auctor ad Herennium*: 208
- Auctoritates Aristotelis*: 36 n. 65, 58, 154, 162, 162 n. 365, 182, 182 n. 469
- Augustine: xiii, 22, 39, 44–45, 47, 65, 65 n. 14, 66, 66 n. 14, 66 n. 16, 67, 71–72, 87 n. 15, 88, 90, 91, 113–14, 151, 161, 163, 174 n. 430, 179, 179 n. 457, 180, 184, 188
- Confessiones*: 72 n. 48, 90 n. 38, 153 n. 325, 174 n. 434
- Contra academicos*: 87
- De dialectica*: 114 n. 151
- De doctrina Christiana*: 197 n. 27, 198 n. 33
- De trinitate*: 72 n. 48, 153 n. 325, 197 n. 27
- Aulus Gellius:
- Noctes Atticae*: 44 n. 98
- Avendauth *see* Abraham Ibn Daud
- Avicenna: 34 n. 50, 44
- Liber de anima*: 58, 58 n. 175

- Baffioni, C.: 54 n. 153
 Balbus: 89
 Barnes, J.: 56 n. 163, 123 n. 194, 126 n. 207, 189, 189 n. 11
 Baron, R.: 4 n. 16, 5 n. 17, 77 n. 77, 92 n. 46
 Baeumker, C.: 60 n. 182
 Becket *see* Thomas
 Bellenguez, P.: 36 n. 59, 80 n. 87
 Bernard of Chartres: 3 n. 11, 4 n. 15, 11, 11 n. 40, 17–18, 47 n. 114, 48 n. 119, 66 n. 18, 105 n. 104, 160, 182 n. 472
 Bernard of Clairvaux: 1, 50
 Bernard Silvestris: 48
 Berti, E.: 123 n. 194
 Biard, J.: 27 n. 2
 Bloch, D.: 3 n. 11, 5 n. 19, 31 n. 30, 33 n. 46, 34 n. 49, 35 n. 52, 44 n. 97, 45 n. 103, 48 n. 122, 64 n. 7, 65 n. 9, 65 n. 13, 66 n. 16, 108 n. 121, 121 n. 183, 124 n. 200, 146 n. 299, 150 n. 309, 154 n. 327, 157 n. 337, 159 n. 352, 188 n. 6
 Boethius de Dacia: 178 n. 451
Quaestiones super librum Topicorum: 178 n. 451
 Boethius, Manlius: 3 n. 11, 7 n. 27, 13, 27, 28, 29 n. 12, 33, 35 n. 53, 37–38, 39 n. 76, 43–46, 46 n. 108, 47, 49, 51, 58, 60, 65, 68, 71, 75–80, 80 n. 89, 81, 97, 99, 100 n. 85, 101, 103, 107, 118 nn. 170–71, 119, 119 n. 174, 121–22, 122 nn. 188–89, 133–36, 138, 142 n. 273, 143, 144, 146, 148, 152, 161, 164, 166, 169 n. 411, 178, 179, 192, 197
Commentarium in De interpretatione: 106 n. 113, 153 n. 325
De consolatione philosophiae, Opuscula theologica: 70 n. 37, 70 n. 38, 71 nn. 39–40
De divisione: 29, 68 n. 24, 92 n. 46, 98, 120, 164 n. 380, 208
De institutione arithmetica: 208
De institutione musica: 208
De hebdomadibus: 41 n. 85, 70, 71, 142, 167
De syllogismo categorico: 31, 31 n. 34, 208
De syllogismo hypothetico: 31, 152 n. 318, 178 n. 452, 208
De topicis differentiis: 29, 29 n. 11, 29 n. 18, 31 n. 29, 32, 36, 36 n. 62, 62 n. 193, 68 n. 24, 71, 72 n. 46, 77 n. 75, 78, 78 n. 79, 79 n. 84, 80, 81 n. 90, 81 n. 92, 98, 98 n. 71, 99 n. 80, 100, 101 n. 87, 108 n. 123, 113 nn. 146–47, 120, 120 n. 177, 135 n. 241, 135 n. 243, 135 n. 245, 136 n. 246, 136 n. 248, 143 n. 281, 164, 174 n. 434, 178 n. 450, 192 n. 4, 197 n. 29, 208
Geometria (pseudo-Boethius): 209
In Categorias Aristotelis: 108 n. 122
In Isagogen Porphyrii Commenta: 68 n. 24, 78 n. 78, 179 n. 458
In Topica Ciceronis: 197 n. 27
Opuscula sacra: 45, 70 n. 37, 71
 Bolton, B.: 1 n. 4
 Boyer, B. B.: 71 n. 45
 Blund *see* John Blund
 Braakhuis, H. A. G.: 27 n. 2
 Brandt, S.: 68 n. 24, 78 n. 78, 179 n. 458
 Brentjes, S.: 65 n. 11
 Brooke, C. N. L.: 21 n. 76
 Bruun, O.: 27 n. 2
 Burgundio of Pisa: 106–07, 124–25, 125 n. 202, 125 n. 204, 166 n. 392
 Burnett, C.: 4 n. 14, 10 nn. 37–38, 13, 13 n. 47, 15 n. 52, 21 n. 78, 35 n. 51, 38 n. 71, 38 n. 73, 46 nn. 110–11, 51 n. 136, 52 n. 142, 53 n. 142, 54, 54 n. 148, 59 nn. 178–81, 60 nn. 183–84, 65 nn. 11–12, 68 n. 28, 69 n. 30, 70 n. 37, 71, 71 n. 42, 73 nn. 52–54, 74 n. 55, 75 n. 64, 76 n. 65, 79 n. 82, 92 n. 46, 106 n. 114, 108 n. 123, 109 n. 123, 116 n. 164, 124 n. 201, 127 n. 212, 137 n. 256, 138 n. 257, 138 n. 158, 138 nn. 260–61, 142 n. 275, 143 n. 277, 143 n. 283, 144 n. 290, 147 n. 300, 160 n. 358, 161 n. 360, 162 n. 369, 167, 167 n. 395, 167 n. 397, 185 n. 486, 186 n. 489, 192 n. 5, 193 n. 9, 194 n. 13, 196 n. 25, 204 n. 64, 207
 Burnyeat, M. F.: 119 n. 175
 Busard, H. L. L.: 65 n. 11, 69 nn. 30–31
 Butterworth, C. E.: 53 n. 142
 Buttimer, C. H.: 9 n. 34, 10 n. 38, 17 n. 58, 18 n. 67, 51 n. 136, 68 n. 27, 78 n. 81, 92 n. 46, 93 n. 48, 95 n. 56, 174 n. 434,

- 179 n. 458, 181 n. 467, 184 n. 481,
185 n. 485, 198 n. 30, 200 n. 44,
201 n. 46, 205 n. 69
Buytaert, E. M.: 48 n. 118, 98 n. 76,
194 n. 14
Byrne, P. H.: 123 n. 194
Byzantium and Byzantine: 34, 172
- Calcidius: 44, 45, 47 n. 114, 160–63,
196 n. 25
Callus, D. A.: 34 n. 50
Cameron, M.: 31 n. 33
Canterbury: 193, 193 n. 9
Carneades: 107
Cassiodorus: 44
Catullus:
 Carmina: 191 n. 1
Charles, D.: 123 n. 194
Chartres: 2, 6, 41, 104, 145
 see also Bernard and Thierry
Chartularium universitatis Parisiensis: 64 n. 3
Chenu, M. D.: 51 n. 135
Chibnall, M.: 8 n. 33, 9 n. 33, 15 n. 52,
22 n. 84, 45 n. 102, 50 n. 128,
51 n. 132, 72 n. 49, 81 n. 92, 87 n. 18,
174 n. 430, 174 n. 433, 177 n. 447,
192 n. 6, 200 n. 41
Cicero: xiii, 21–24, 44, 44 n. 99, 45,
45 n. 100, 47, 47 n. 114, 61, 65, 72,
76–79 n. 84, 86, 86 n. 10, 86 n. 11,
87, 87 n. 15, 88, 88 n. 23, 89–90, 91,
91 n. 43, 96, 96 n. 64, 97, 98, 103, 107,
113–14, 121, 130, 135, 142, 151, 158,
161, 163, 164, 184, 184 n. 482, 192
 Academica: 22 n. 86, 68, 68 n. 26,
70, 71 n. 43, 86, 87, 87 n. 17, 89,
89, n. 24, 89 n. 27, 89 n. 29, 98,
104 n. 103, 160 n. 358, 161 n. 361,
174 n. 432
 De fato: 113 n. 146, 197 n. 30
 De finibus: 113 n. 146, 160 n. 358,
198 n. 30
 De inventione: 72 n. 48, 77 n. 75,
96 n. 61, 96 n. 63, 117 n. 164,
134 n. 236, 175 n. 435, 175 n. 437,
185 n. 486, 208
 De natura deorum: 89, 89 n. 24, 89 n. 27
 De officiis: 175 n. 437
 De Oratore: 75 n. 63, 77 n. 74, 96 n. 63,
107 n. 115, 153 n. 325, 161 n. 361,
175 n. 437, 184 n. 482, 197 n. 27,
198 n. 33, 200 n. 43
 Partitiones Oratoriae: 208
 Topics: 29, 29 n. 11, 29 n. 18, 36 n. 62,
47 nn. 115–16, 62 n. 193, 71, 77,
77 n. 73, 78, 79 n. 84, 91 n. 40, 97–
98, 105, 105 n. 106, 107, 108 n. 123,
113 n. 146, 114, 120, 120 n. 179,
125, 132 n. 227, 133, 135 n. 242,
159, 168, 170, 177 n. 445, 188,
192 n. 3, 197 n. 27, 198 n. 30, 208
 Tusculanae disputationes: 98 n. 70
Clagett, M.: 65 n. 11, 69 n. 31
Clarembald of Arras: 29–30, 71, 71 n. 41, 142
 Expositio super librum de hebdomadibus:
29 n. 17, 30 n. 26, 134 n. 233,
167 n. 394
 Tractatus super librum Boetii De trinitate:
29 n. 17, 30 n. 26, 73 n. 49, 167 n. 394
Clerval, A.: 36 n. 59
Conrad of Hirschau: 29, 46, 67
 Dialogus super auctores sive Didascalon:
10 n. 38, 12 n. 41, 29 n. 18,
46 nn. 107–08, 48 n. 121, 53 n. 144,
67 n. 20, 134 n. 236, 174 n. 434,
180 n. 458, 198 n. 31
Constantine of Africa: 53
Cornificians *see* Cornificius
Cornificius: xiv–xv, 14 n. 52, 18, 18 n. 63–65,
19, 47, 84–85, 85 n. 4, 94, 94 n. 49,
95, 96, 97, 97 n. 67, 101 n. 88, 173,
175 n. 438, 191, 191 n. 1, 192, 192 n. 6,
193, 193 n. 9, 194, 195, 198–99, 200,
200 n. 43, 202–23, 203 n. 59, 204–05,
205 n. 69
Corti, L.: 27 n. 2
Cotta: 89
Coventry *Introduction to Boethius's De arith-*
 metica: 10 nn. 37–38, 13, 13 n. 47, 75,
75 n. 64, 76 n. 65, 79 n. 82, 127 n. 212,
138 n. 261, 138, 142 n. 275, 143 n. 283
Cox, V.: 86 n. 10
- Dales, R. C.: 64 n. 5
Daniel of Morley: 145
 Philosophia: 144, 145 n. 293
Dal Pra, M.: 78 n. 80, 84 n. 2, 86 n. 7,
96 n. 60, 98 n. 73, 103 n. 101, 118 n. 171

- De Gandillac, M.: 167 n. 399, 168 n. 399
 Delhay, P.: 105 n. 104
 De Libera, A.: 22 n. 83, 53 n. 142, 58 n. 174,
 58 n. 176, 76 n. 72, 160 n. 357, 195 n. 17
De locis argumentationum see Anonymus
 De Rijk, L. M.: 2 n. 9, 8 n. 31, 27 n. 3,
 28 n. 4, 28 n. 6, 29 n. 14, 29 nn. 19–21,
 30 n. 22, 31 n. 35, 32 n. 37, 32 nn. 39–
 40, 32 n. 43, 35 n. 56, 36 n. 57,
 36 nn. 63–64, 41, 41 nn. 86–87,
 65 n. 10, 68 n. 25, 71 n. 44, 75 n. 60–61,
 76, 76 n. 67, 78 n. 80, 81 n. 92, 92 n. 46,
 96 n. 62, 109 n. 123, 123 n. 194,
 133 n. 232, 135 n. 243, 135 n. 245,
 136 n. 247, 157 n. 342, 163 n. 371,
 177 n. 447, 180 n. 460, 184 n. 479,
 189 n. 13, 191 n. 2, 195 n. 18
 Delisle, L.: 165 n. 388
 Denifle, H.: 64 n. 3
 Descartes, R.: 22
 Detel, W.: 123 n. 194
Dialectica Monacensis see Anonymus
 Dickinson, J.: 25 n. 95
 Diez, M. B.: 80 n. 87, 143 n. 282
 Diogenes of Babylon: 77
 Diogenes Laertius:
 Vitae philosophorum: 98 n. 74
 Dionysius the Areopagite: 161
 Dod, B. G.: 27 n. 1, 34 nn. 46–47, 35 n. 51,
 35 n. 55, 36 n. 58, 38 n. 74, 39 n. 76,
 39 n. 78, 40 n. 82, 41, 41 n. 86,
 43 nn. 93–96, 54, 54 n. 149, 58 n. 177,
 61 n. 189, 63 n. 1, 64 n. 8, 65 nn. 12–13,
 69 n. 32, 70 n. 35, 85 n. 5, 122 n. 188,
 124 n. 198, 128 n. 217, 135 n. 240,
 137, 144, 144 n. 286, 145, 145 n. 295,
 146 n. 298, 150 n. 306, 150 n. 308,
 151, 151 nn. 313–14, 154, 154 n. 328,
 161 n. 363, 162, 162 n. 366–67,
 188 n. 5
 Dominicus Gundissalinus: 53–54, 58–59, 157
 Donatus:
 Ars grammatica: De barbarismo: 208
 Ars Maior: 207
 Ars Minor: 207
 Dotto, G.: 21 n. 75, 76 n. 72, 89 n. 28,
 101 n. 88, 105 n. 104, 174 n. 434,
 188 n. 7
 Dowdell, V. L.: xiii n. 1, 147 n. 300
 Dreyer, M.: 65 n. 12, 143 n. 279
 Drogo of Troyes: 30, 30 nn. 24–25
 Dronke, P.: 2 n. 5, 22 n. 82, 40, 41 n. 84,
 65 n. 12, 121 n. 182, 144–45,
 145 n. 293, 166 n. 393, 167 n. 393
 Duggan, A. J.: 1 n. 4, 52 n. 138
 Ebbesen, S.: 28 n. 4, 29 n. 11, 31 n. 33,
 32 n. 41, 33 n. 44, 34 nn. 46–49,
 39 n. 76, 64 nn. 7–8, 65 n. 10, 65 n. 13,
 67 n. 23, 68 n. 23, 73 n. 49, 76 n. 67,
 79 n. 85, 80 n. 86, 80 nn. 88–89,
 81 n. 91, 134 n. 235, 143 n. 277,
 146 n. 298, 155 n. 331, 165 n. 388,
 169 nn. 408–10, 169 n. 412, 170 n. 413,
 170 nn. 416–17, 171 nn. 418–19,
 172, 172 n. 422, 172 nn. 424–25,
 175 n. 436, 184 n. 481
 Egyptian: 126, 126 n. 206
 England: 1, 15, 59, 69, 193 n. 9, 199 n. 40
 Epicurus: 89
 Escobar, A.: 86 n. 10
 Euclid: 7, 13, 56, 65, 65 n. 11, 68, 108, 122,
 138, 138 n. 261, 144
 Elements: 54, 59, 68–70, 124, 144–45,
 149, 208–09
 Optics: 69–70, 70 n. 34
 Eugenius III: 2
 Evans, G. R.: 5 n. 19, 6 n. 21, 41 n. 85,
 64 n. 7, 65 n. 11, 108 n. 123, 112,
 112 n. 139, 207
 Fantham, E.: 197 n. 27
 Ferruolo, S. C.: 117 n. 166
 Ferejohn, M.: 123 n. 194
 Fidora, A.: 65 n. 12
 Fink, J. L.: 114 n. 153
Fragmentum Admontense: 41 n. 85
 France: 1–2, 7, 10, 17, 19, 20, 38–39,
 39 n. 76, 40, 49 n. 123, 59, 146
 Fredborg, K. M.: 15 n. 52, 17 n. 62, 31 n. 31,
 46 n. 109, 86 n. 10, 91 n. 43, 95 n. 58,
 117 n. 164, 188 n. 9, 189 n. 9, 207
 Frede, M.: 75 n. 62
 Garfagnini, G. C.: 144 n. 292, 191 n. 1, 195,
 205, 205 n. 68
 Garlandus Compotista:
 De abaco: 209

- Dialectica*: 28–29, 29 nn. 20–21, 30 n. 22,
31 n. 35, 32, 32 n. 37, 32 n. 39,
35, 36 n. 63, 78 n. 80, 108 n. 123,
135 n. 245, 157 n. 342
- Genesis*: 103 n. 96
- Gerbert of Aurillac:
Geometria: 209
Scholium in De institutione arithmetica: 208
- Gerl, H. B.: 117 n. 168, 188 n. 8
- Germany: 165 n. 388
- Gerard of Cremona: 34 n. 48, 37 n. 69,
53–54, 58, 58 n. 174, 59, 155, 187
- Geyer, B.: 28 n. 5, 35 nn. 53–54, 98 n. 75
- Ghorab, A. A.: 172 n. 423
- Gilbert of Poitiers: xiv, 1, 3, 5, 8, 8 n. 32, 9,
9 n. 33, 15 n. 52, 16, 21–22, 41–43,
43 n. 96, 50, 50 n. 128, 51, 64, 65 n. 9,
71, 118, 138, 142, 142 n. 274, 163,
174 n. 430, 177 n. 447, 179 n. 454, 187,
193, 195, 199 n. 41, 200 n. 41
- Commentaries on Boethius*: 71 n. 41
- Expositio in Boecii librum primum*
De trinitate: 51 n. 133, 105 n. 108,
138 n. 259
- Exposition in Boecii librum De bonorum*
ebdomade: 41 n. 85, 163 n. 371
- Glose in Aristotilis Sophisticos Elencos*:
68 n. 25
- Godfrey of St Victor:
Fons philosophiae: 10 n. 38, 50 n. 128,
53 n. 145, 96 n. 62, 117 n. 388
- Goldin, O.: 123 n. 194
- Godman, P.: 205 n. 69
- Gracia, J. J. E.: 195 n. 17
- Greece and Greek: 1, 33, 33 n. 44, 34,
38, 39 n. 76, 41, 41 n. 89, 52, 59,
61 n. 191, 67–70, 70 n. 34, 80, 80 n. 86,
119 n. 174, 119–20, 125, 128, 134–36,
145–46, 146 n. 297, 155, 159 n. 349,
162, 166, 170, 172, 181 n. 467, 182,
197 n. 27
- Grellard, C.: 5, 6 nn. 23–24, 21, 22 n. 81,
61 n. 190, 76 n. 72, 86 n. 7, 130 n. 222,
143 n. 276
- Green-Pedersen, N. J.: 28 n. 9, 29 n. 13,
29 n. 15, 30 n. 23, 30 n. 27, 31 n. 28,
32 n. 36, 33, 33 n. 44, 35 n. 53,
61 n. 191, 76 n. 71, 102 n. 94,
116 n. 159, 133, 133 nn. 228–30,
135 n. 244, 178 n. 451
- Grosseteste *see* Robert
- Gualo: 192
- Guilfof, K.: 192 n. 5
- Guilhou, E.: 203 n. 59
- Guillaume de Conches:
Glosae super Boetium: 96 n. 62, 168 n. 400,
174 n. 435
Glosae super Platonem: 91 n. 42, 96 n. 62,
103 n. 96, 138 n. 259, 143 n. 277,
175 n. 435, 185 n. 486, 196 n. 26,
197 n. 26
Philosophia mundi: 96 n. 64, 137 n. 255,
163 n. 372, 191 n. 2
- Guillaume de Tyr:
Chronicon: 13 n. 46, 144 n. 289
- Gundissalinus *see* Dominicus Gundissalinus
- Guth, K.: 3 n. 13, 7 n. 29, 23 n. 87, 36 n. 58
- Guy (cardinal priest): 81 n. 92
- Häring, N. M.: 2 n. 5, 10 n. 38, 29 n. 17,
30 n. 26, 41 n. 85, 46 n. 109, 51 n. 133,
67 n. 23, 71 n. 41, 73 n. 49, 105 n. 108,
134 n. 233, 136 n. 252, 138 n. 259,
142 n. 274, 143 nn. 277–78, 147 n. 300,
163 n. 371, 167 n. 394, 170 n. 416
- Hall, J. B.: 14 n. 49, 17, 18 n. 65,
192 n. 5, *et passim*
- Hamesse, J.: 36 n. 65, 162 n. 365, 182 n. 469
- Hansen, H.: 134 n. 233
- Harari, O.: 123 n. 194
- Hardewin the German: 3, 6, 6 n. 22
- Haskins, C. H.: 34 n. 46, 35 n. 51
- Hasse, D. N.: 58 n. 175
- Hebrew: 129
- Hector: 176 n. 444
- Hellenistic: 24
- Heloise: 194
- Hendley, B.: 2 n. 6, 79 n. 84, 80 n. 87,
84 n. 3, 110 n. 133, 174 n. 431,
186 n. 489
- Henry I: 59
- Henry Aristippus: 41, 42 n. 90, 69, 70 n. 34,
142 n. 275, 160–61, 161 n. 360
- Hercules: 176 n. 444
- Hermann of Carinthia: 59, 137, 138
De essentiis: 4 n. 14, 60, 60 nn. 183–84,
109 n. 123, 137 n. 256, 138 n. 257,
143 n. 277, 161 n. 360

Hermannus Contractus: 209

Hero:

Mechanics: 69, 70 n. 34

Hertz, M.: 92 n. 46

Hilary (St): 50 n. 128

Hintikka, J.: 132, 132 n. 225

Horace: 44, 44 n. 99, 48–49, 51

'Hugh' (?): 64, 64 n. 4

Hugh of Honau: 64, 170

Liber de Ignorantia: 170 n. 416

Hugh of St Victor: 3 n. 11, 6, 18, 36, 43, 45,

45 n. 102, 51 n. 136, 68, 78, 187–88,
200–01

De grammatica: 4 n. 16, 92 n. 46

De sacramentis: 48 n. 121, 73

Didascalicon de studio legendi: 9 n. 34, 10,

10 n. 38, 17 n. 58, 18 n. 67, 45 n. 104,

51 n. 136, 68 n. 27, 78 n. 81, 92 n. 46,

93 n. 48, 95 n. 56, 152, 174 n. 434,

179 n. 458, 181 n. 467, 184 n. 481,

185, 185 n. 485, 198 n. 30, 200 n. 44,

201 n. 46, 205 n. 69

Epitome Dindimi in philosophiam: 5 n. 17,

77 n. 77

Hunt, R. W.: 34 n. 50, 92 n. 46, 96 n. 62,

116 n. 163

Huygens, R. B. C.: 13 n. 46, 14 n. 52,

96 n. 62, 117 n. 166, 144 n. 289

Hyginus:

Astronomica: 209

Iberia: 126, 126 n. 206

Institutio Traiani:

Isidore: 44, 113 n. 140

Italy: 1, 161

Southern Italy: 40 n. 82, 41, 124 n. 201

Iulius Severianus:

Ars rhetorica: 208

Iwakuma, Y.: 36 n. 61, 37 n. 66, 65 n. 10,

76, 76 nn. 67–69, 79 n. 85, 80 n. 86,

133 n. 231, 134 n. 234

Jackson, B. Darrell: 114 n. 151

Jacobi, K.: 13 n. 44, 31 n. 32, 74 n. 57,

76 n. 67, 76 n. 70, 121 n. 186,

127 n. 209, 128 n. 213, 154 n. 329,

159 n. 349, 160 n. 355

James of Venice: 31, 34, 34 n. 47, 37,

37 n. 68, 38, 38 n. 71, 39, 39 n. 76,

40–44, 128 n. 214, 142, 145–46, 148,

153, 155, 161, 165 n. 388, 166, 172, 187

Jeaneau, E. A.: 4 n. 16, 5 n. 20, 12 n. 41,

17 n. 60, 38 n. 71, 38 n. 73, 40 n. 82,

44 n. 99, 48 n. 120, 50 n. 128,

51 n. 134, 66 n. 18, 67 n. 19,

89 n. 25, 91 n. 42, 96 n. 62, 103 n. 96,

138 n. 259, 143 n. 277, 168 n. 399,

175 n. 435, 185 n. 486, 196 n. 26,

197 n. 26

John Belmeis (John of York): 38, 146

John Blund: 34 n. 50

John of Salisbury: *passim*

The Early Letters: 9 n. 35

Entheticus maior: 15 n. 52, 19 n. 70,

21 n. 77, 23 n. 89, 25, 25 n. 98,

46 n. 110, 47 n. 117, 49 nn. 124–25,

50 n. 127, 50 n. 129, 53, 53 n. 146,

66 n. 15, 66 nn. 17–18, 67 n. 19,

75 n. 63, 86 n. 9, 86 n. 11, 88 n. 19,

89 n. 23, 90 n. 36, 106 nn. 112–13,

119 n. 172, 129 n. 218, 161 n. 362,

168, 168 n. 402, 175 n. 438,

192, 196 n. 26, 197 n. 27, 204,

204 n. 67, 205

Entheticus minor: 25 n. 98

Historia Pontificalis: 8 n. 33, 9 n. 33,

15 n. 52, 22, 22 n. 84, 45 n. 102,

50 n. 128, 51 n. 132, 72 n. 49,

81 n. 92, 87 n. 18, 174 n. 430,

174 n. 433, 177 n. 447, 192 n. 6,

200 n. 41

The Later Letters: 41 n. 88, 44 n. 98,

165 n. 390

Metalogicon: *passim*

Policraticus: 5, 6 nn. 23–24, 7 n. 27,

7 n. 29, 16 n. 56, 21, 21 n. 76, 23,

23 nn. 89–90, 24 n. 93, 25, 25 n. 95,

30 n. 24, 42, 42 nn. 91–92, 44 n. 98,

46 n. 105, 46 n. 110, 47, 47 n. 113,

47 n. 117, 48, 49, 49 n. 123, 50,

50 nn. 126–27, 62, 62 n. 193,

66 n. 15, 66 nn. 17–18, 68 n. 29, 83,

84 nn. 2–3, 86 n. 9, 86 nn. 11–12,

87, 87 n. 15, 88 n. 19, 90 n. 30,

90 nn. 32–33, 90 n. 37, 95 n. 56,

98 n. 72, 106 n. 113, 125 n. 202, 140,

140 n. 268, 144, 144 n. 287, 167,

167 n. 396, 168 n. 401, 173,

- 173 n. 427, 179 n. 455, 180,
180 nn. 461–63, 183 n. 477,
184 nn. 480–81, 185 n. 483,
193 n. 7, 197 n. 27, 204 n. 61
- John the Saracen: 38, 146
- John of Seville: 58, 157
- 'John' the Translator (of *Posterior Analytics*):
38, 38 n. 72, 40, 42–43, 148, 153,
155, 166
- John of Tynemouth: 34 n. 50
- Redaction of Euclid's Elements*: 65 n. 11,
69 nn. 30–31
- John of York *see* John Belmeis
- Jolivet, J.: 52 n. 142, 53 n. 143, 54 n. 147,
54 n. 149, 66 n. 14
- Juvenal: 44
- Keats-Rohan, K. S. B.: 2 nn. 5–6, 2 n. 8,
3 n. 13, 6 nn. 23–24, 13 n. 46, 15 n. 53,
16 n. 57, 21 n. 76, 23 n. 89, 24 n. 93–94,
25 n. 95, 30 n. 24, 42 nn. 91–92,
47 n. 113, 62 n. 193, 68 n. 29,
86 nn. 11–12, 105 n. 104,
180 nn. 461–62, 184 n. 480,
185 n. 483, 188 n. 7, 189 n. 10
- Kessel, B. A.: 53 n. 142
- Kiefer, T.: 123 n. 194
- Kneale, M.: 13 n. 44, 195 n. 17
- Kneale, W.: 13 n. 44, 195 n. 17
- Kneepkens, C. H.: 27 n. 2, 84 n. 2
- Knorr, W. R.: 34 n. 50, 65 n. 11, 69,
69 n. 30, 69 n. 32, 138 n. 262
- Kullmann, W.: 143 n. 280
- Lactantius: 91
- Lagerlund, H.: 22 n. 80, 22 n. 82, 54 n. 152,
86 n. 7, 111 n. 135, 119 n. 175
- Lanuvinus: 47
- Lawn, B.: 195 n. 18
- Lejeune, F.: 24 n. 94, 199 n. 39
- Lemay, R.: 167 n. 393
- Lemoine, M.: 90 n. 31, 175 n. 435
- Lerer, S.: 48 n. 120, 87 n. 13
- Liber de causis*: 142, 142 n. 276
- Liber de naturis inferiorum et superiorum*
see Daniel of Morley, *Philosophia*
- Liber introductorius in artem logicae*
demonstrationis see Anonymus
(Mahometh, student of Al-Kindi)
- Liebeschütz, H.: 3 n. 13, 4 n. 15, 25,
25 n. 96, 76 n. 72
- Lloyd, R. B.: 194, 194 n. 16
- Logica nova*: xv, 27, 31, 33, 36–37, 43,
81 n. 92, 120, 135 n. 245, 167, 168,
187, 188
- Logica vetus*: 29, 29 n. 11, 118
- Lohr, C. H.: 54 n. 152, 61 nn. 187–88,
70 n. 37, 105 n. 105, 109 n. 123,
110 n. 133, 111 n. 135, 124 n. 199,
125 n. 204, 136 n. 249, 136 n. 252,
142 n. 276, 191 n. 2
- Long, A. A.: 47 n. 114, 89 n. 29, 158 n. 348,
161 n. 361
- Loundsbury, R. C.: 86 n. 10
- Lucan: 46 n. 108, 48, 51, 51 n. 134
- Lutz, C. E.: 62 n. 192
- Lutz–Bachmann, M.: 65 n. 12
- McEvoy, J.: 64 n. 5
- McGarry, D. D.: 2 n. 6, 3 n. 11, 11 n. 39,
24 n. 94, 30 n. 25, 44 n. 99, 45 n. 101,
79 n. 83, 80 n. 87, 84 nn. 2–3,
113 n. 140, 116 n. 164, 131 n. 223, 139,
160, 160 n. 359, 163 n. 375, 174 n. 430,
174 n. 434, 176 n. 441, 193 n. 9,
199 n. 39
- McLaughlin, M. M.: 96 n. 62, 105 n. 104
- McKeon, R.: 71 n. 45
- McKirahan, R. D.: 123 n. 194
- Macrobius: 44–45, 161
- Magee, J.: 68 n. 24, 92 n. 46, 164 n. 380
- Mahometh *see* Anonymus (Mahometh,
student of Al-Kindi)
- Maloney, T. S.: 64 n. 4
- Mann, W. R.: 75 n. 60
- Marenbon, J.: 2 n. 5, 19 n. 69, 29 n. 14,
31 n. 33, 35 n. 55, 41 n. 85, 50 n. 127,
87 n. 14, 104 nn. 103–04, 189 n. 13
- Marius Victorinus: 107, 164, 184
- De definitione*: 208
- Mark (St): 165, 165 n. 390
- Marmo, C.: 124 n. 197
- Martianus Capella: 3 n. 11, 44, 44 n. 99, 45,
96, 96 n. 63, 161
- De nuptiis V: Rhetorica*: 208
- De nuptiis VII: Arithmetica*: 208
- Martin, C. J.: 13 n. 44, 14 n. 48, 31 n. 33, 32,
32 nn. 42–43

- Martin, J.: 23, 23 n. 88, 30 n. 24, 44 n. 98,
46 n. 106, 49, 49 n. 123, 51, 52 n. 138
- Maurach, G.: 96 n. 64, 137 n. 255,
145 n. 293, 163 n. 372, 191 n. 2
- Meiser, C.: 106 n. 113, 153 n. 325
- Melun *see* Robert
- Metamorphosis Goliae*: 14 n. 52, 96 n. 62,
117 n. 166
- Mews, C. J.: 22 n. 83, 73 n. 50, 87 n. 14,
98 n. 76, 105 n. 104, 158 n. 345,
194 n. 14
- Meyer, P.: 144 n. 292
- Michaud-Quantin, P.: 10 n. 38, 50 n. 128,
53 n. 145, 96 n. 62, 117 n. 166,
165 n. 388
- Migne, J. P.: 48 n. 121, 108 n. 122, 118 n. 170,
152 n. 318, 178 n. 452, 197 n. 27
- Mignucci, M.: 123 n. 194
- Mill, John Stuart: 189
- Millor, W. J.: 9 n. 35, 41 n. 88, 44 n. 98,
165 n. 390
- Minio-Paluello, L.: 13 n. 45, 14 n. 48,
28 n. 7, 31 n. 31, 34 nn. 46–47,
35 n. 51, 37 nn. 69–70, 38 n. 71,
39 n. 76, 40, 40 n. 83, 43 n. 94, 43 n. 96,
72 n. 47, 98 n. 75, 100 n. 85, 101 n. 90,
102 n. 91, 116 n. 163, 119 n. 174,
121 n. 186, 122, 122 nn. 189–90,
122 n. 191, 127 n. 209, 128 n. 213,
144 n. 292, 146 n. 298, 154 n. 329,
159 n. 349, 160 n. 355, 167 n. 393,
187 n. 3, 191 n. 1, 194, 194 n. 17,
195 n. 18, 195 n. 22, 196, 196 n. 24,
197 n. 28, 198 n. 32, 200 n. 42,
202, 202 n. 52, 203, 203 nn. 54–57,
204 nn. 62–63, 205, 205 n. 68
- Monfrin, J.: 8 n. 31
- Mont Ste Geneviève *see* Paris
- Moreschini, C.: 70 n. 37, 70 n. 38,
71 nn. 39–40, 142 n. 273
- Moses: 67
see also Petrus Alfonsi
- Murdoch, J. E.: 65 n. 11
- Nagy, A.: 54 n. 151, 55 nn. 154–59,
56 nn. 160–62, 56 n. 164, 57 nn.
165–72, 58 n. 173, 58 n. 176, 91 n. 41,
109 nn. 124–25, 113 n. 143, 143 n. 284,
144 n. 285, 163 n. 374
- Nauta, L.: 96 n. 62, 168 n. 400, 174 n. 435
- Nederman, C. J.: 2 nn. 5–6, 3 n. 13, 12 n. 42,
16, 16 n. 57, 17, 18 n. 66, 21 n. 76, 24,
24 n. 92, 25 n. 95, 49 n. 123, 76 n. 72,
84 n. 2, 86 n. 7, 86 n. 10, 87 n. 15,
89 nn. 26–28, 105 n. 104, 186 n. 488,
191 n. 1, 192, 192 n. 6, 193
- Neoplatonists: 65
- Newton, L. A.: 27 n. 2
- Nicholas of Amiens:
Ars fidei Catholicae: 108 n. 123, 143
- Nielsen, L. O.: 41, 41 n. 85
- Nikitas, D. Z.: 29 n. 11, 36 n. 62, 62 n. 193,
68 n. 24, 72 n. 46, 77 n. 75, 78 n. 79,
79 n. 84, 81 n. 90, 81 n. 92, 98 n. 71,
99 n. 80, 101 n. 87, 108 n. 123,
113 n. 146, 120 n. 177, 135 n. 241,
135 n. 243, 135 n. 245, 136 n. 246,
136 n. 248, 143 n. 281, 174 n. 434,
178 n. 450, 192 n. 4, 197 n. 29
- Noone, T. B.: 195 n. 17
- Nothdurft, K. D.: 204 n. 61
- O'Donnell, J. R.: 34 n. 48, 155 n. 330, 188 n. 4
- Oehler, K.: 75 n. 60
- Olsen, B. M.: 76 n. 72, 86 n. 10, 89 nn. 25–26,
167 n. 399, 175 n. 437, 184 n. 482
- Olsen, G. W.: 76 n. 72
- Orlandi, G.: 29 n. 14, 50 n. 127, 104 n. 103,
189 n. 13
- Otto of Freising: 195 n. 22
Gesta Frederici seu rectius Cronica: 165 n. 388
- Ovid:
Metamorphoses: 105 n. 104
Tristia: 191 n. 1
- Owen, G. E. L.: 114 n. 153
- Papal Curia: 1
- Palazzo, L. C.: 73 n. 50, 89 n. 28, 180 n. 461,
180 n. 464, 192 n. 5
- Palencia, A. G.: 54 n. 150, 125 n. 204
- Paris: xiii, xiv, 2, 3, 7, 15, 19, 40–42,
42 n. 91, 43, 45, 46, 62–63, 63 n. 2, 81,
83, 104, 121, 123, 145, 157–58, 193,
193 n. 9, 201, 201 n. 47
Mont Ste Geneviève: 2, 2 n. 9, 8, 9 n. 33,
10, 20, 119, 194
- Parvipontaneans *see* Adam of Balsham
- Pasnau, R.: 187 n. 1

- Pattin, A.: 142 n. 276
 Peripateticus Palatinus *see* Peter Abelard
 Perler, D.: 86 n. 7, 119 n. 175
 Persius: 44
 Peter Abelard: xiv, 1, 2, 4 n. 15, 5 n. 8,
 8 n. 33, 9 n. 33, 13, 15, 17, 20–21,
 27–31, 35–36, 46–49, 73, 73 n. 50, 78,
 87, 89, 96 n. 62, 98, 103–05, 118–19,
 119 n. 173, 123, 136, 163, 167–68,
 168 n. 399, 174 n. 433, 178, 180, 187,
 193–94
Collationes: 29 n. 14, 50 n. 127,
 104 n. 103, 104 n. 104, 189 n. 13
Confessio fidei ad Heloisam: 194, 194 n. 13
Dialectica: 8 n. 31, 27 n. 3, 28, 28 n. 6,
 29 n. 14, 29 n. 19, 32 n. 40, 32 n. 43,
 34 n. 56, 36 n. 57, 71, 71 n. 44,
 81 n. 92, 92 n. 46, 98, 109 n. 123,
 111, 133, 133 n. 232, 135 n. 243,
 136 n. 247, 163 n. 371, 177 n. 447,
 180 n. 460, 184 n. 479, 189 n. 13,
 191 n. 2
Historia calamitatum: 8 n. 31
Letters: 5 n. 20, 180 n. 460
Logica 'Ingredientibus': 28 n. 5, 35 n. 54,
 35, 78 n. 80, 118 n. 171
Logica 'Nostrorum petitioni sociorum': 35,
 35 n. 53
Sic et non: 71 n. 45
Theologia Christiana: 48 n. 118
Theologia Scholarium: 194 n. 14
Theologia Summi boni: 98 n. 76
 Peter Helias: 1, 3
 Peter of Blois: 12 n. 42
 Peter of Celles: 12 n. 42
 Peter of Poitiers: 118
 Sententiarum libri quinque: 118 n. 170
 Die Zwettler Summe: 136 n. 252
 Peter the Venerable: 59
 Petronius: 18 n. 62
 Petrus Alfonsi (Moses): 59
 Philo of Larissa: 89
 Philoponus: 34, 136, 155, 170 n. 414, 172, 187
 In Aristotelis Analytica posteriora commen-
 taria: 125 n. 204, 136 n. 251,
 155 n. 331, 172 n. 425, 182 n. 470
 Pike, J. B.: 25 n. 95
 Pinborg, J.: 178 n. 451
 Plato (Platonists): 4 n. 14, 22 n. 83, 44–47,
 47 n. 114, 53 n. 145, 89, 98, 114, 148,
 153, 158, 160, 160 n. 356, 160 n. 358,
 161, 161 n. 361, 162–63
Euthydemus: 97 n. 67
Meno: 160
Phaedo: 41, 42 n. 90, 69, 70 n. 34,
 142 n. 275, 160, 161 n. 360
Republic: 162
Timaeus: 47, 47 n. 114, 53, 160, 162–63,
 196 n. 25
 see also Neoplatonists
 Pliny the Elder: 113 n. 140
 Poirel, D.: 52 n. 138
 Poitiers *see* Gilbert *and* Peter
 Porphyry: 49, 85, 103 n. 96, 105–06
 Isagoge: 27, 33, 78, 84, 93, 97, 97 n. 68,
 103, 103 n. 96, 181 n. 467, 208
 Powell, J. G. F.: 47 n. 114, 88 n. 23
 Pozzi, L.: 31 n. 31
 Prantl, C.: 13 n. 44
 Priscian: 17
 De accentibus: 207
 De duodecim versibus Virgilii: 207
 De figuris numerorum: 207
 De metris fabularum Terentii: 207
 Institutio de nomine, pronomine et verbo: 207
 Institutionum grammaticarum: 92 n. 46,
 207
 Proverbs: 115 n. 155
 Ptolemaeus:
 Praeceptum canonis Ptolomei: 209
 Quintilian: 11, 44, 44 n. 99, 45, 96, 96 n. 63
 Institutiones oratoriae: 11 n. 39, 52 n. 140,
 96 n. 61, 134 n. 236, 183 n. 476
 Rahewin: 165 n. 388
 Reginald 'the Monk': 192
 Reinhardt, T.: 29 n. 11, 77 n. 73, 79, 84
 Remigius of Auxerre:
 Commentum in Martianum Capellam:
 62 n. 192
 Richard 'the Bishop': 3, 6, 6 n. 22, 11,
 11 n. 40, 18, 41, 48, 146, 165–66, 194
 Ritchie, A. L.: 14 n. 49, 17, 18 n. 65,
 192 n. 5
 Roboratus (?): 69
 Robert de Torigni:
 Chronique: 165 n. 388

Robert Grosseteste: xv, 64, 66, 69, 69 n. 32,
124, 124 n. 200, 188

Commentarius: 64 n. 5

Robert Pullen: 3

Robert of Chester:

Redaction of Euclid's Elements: 65 n. 11

Robert of Melun: xiv, 1, 2, 8, 20, 30, 51, 98,
116, 118, 199 n. 172, 194, 204 n. 62

Robert of Selby: 69

Robert of Torigny: 31, 31 n. 30, 64

Roger Bacon: 64

Compendium of the Study of Theology: 64 n. 4

Rome: 77, 125 n. 202

Ronca, I.: 4 n. 16, 81 n. 92

Roscelin: 89

Rosier-Catach, I.: 27 n. 2

Ross, D.: 117–18, 118 n. 169, 119, 121,
159 n. 349, 182 n. 470

Rossi, P.: 34 n. 48, 64 n. 5

Ryan, M. B.: xiii n. 1

Salerno: 41, 41 n. 89

St Gall (Sankt Gallen): 35 n. 53, 35 n. 55,
138, 133

Schepss, G.: 10 n. 38, 12 n. 41, 29 n. 18,
46 nn. 107–08, 48 n. 121, 53 n. 144,
67 n. 20, 134 n. 236, 174 n. 434,
180 n. 458, 198 n. 31

Schmeck, H.: 73 n. 50

Schmitt, C. B.: 86 n. 10, 89 n. 26

Schrimpf, G.: 70 n. 37, 86 n. 9

Seit, S.: 25 n. 95

Seneca:

Epistulae morales: 179 n. 457, 204 n. 61

Serene, E.: 65 n. 12, 65 n. 14

Seward, E.: xiii n. 1

Schébat, L.: 86 n. 10

Schmale, F. J.: 165 n. 388

Sicily: 40 n. 82, 41, 41 n. 89, 69, 70 n. 34

Simon of Poissy: 3

Simon of Tournai: 64

Smits, E. R.: 5 n. 20, 180 n. 460

Socrates: 89

Southern, Richard: 2 n. 5, 49 n. 123, 64 n. 5

Spain: 59

Speer, A.: 4 n. 14, 64 n. 7

Statius: 46

Stephen of Rouen: 52 n. 140

Stewart, H. F.: 70 n. 37

Stirnemann, P.: 52 n.

Stoics: 77, 77 n. 73, 89, 98, 98 n. 74

Strato: 104 n. 103

Stump, E.: 28 n. 9, 77 n. 75, 113 n. 147

Südhoff, K.: 145 n. 293

Syracuse: 69, 70 n. 34

Tacchella, E.: 184 n. 482, 191 n. 1, 192 n. 6,
195 n. 18, 202 n. 49

Taylor, J.: 179 n. 458

Terence: 47

Terricus *see* Thierry of Chartres

Themistius: 34 n. 48, 103, 155,
155 n. 330, 188

Analyticorum posteriorum paraphrasis:
182 n. 470

Theodoric *see* Thierry of Chartres

Theoridus of Brindisi: 69, 70 n. 34

Thierry of Chartres (Theodoric): xiv, 1, 3,
3 nn. 11–12, 3 n. 14, 4 n. 14, 6, 30, 32,
32 n. 43, 33, 36, 40, 43, 43 n. 96, 46, 48,
51 n. 135, 59, 67, 71, 71 n. 41, 91 n. 43,
96, 116, 116 n. 164, 117, 117 n. 165,
142, 144 n. 292, 147 n. 300, 160, 165,
175 n. 435, 175 n. 437, 188 n. 9

Commentarius super De invention:

15 n. 52, 17 n. 62, 91 n. 43, 95 n. 58,
117 n. 164

Glosa super Boethii librum De trinitate:
30 n. 26

Heptateuchon: xv, 4 n. 16, 5 n. 20, 6,
6 n. 25, 12 n. 41, 29, 30, 30 n. 25, 33,
35, 48 n. 120, 50 n. 128, 117 n. 164,
144, 144 n. 290, 145, 207

The Latin Rhetorical Commentaries:
117 n. 164

Lectiones in Boethii librum De trinitate:
30 n. 26, 72 n. 49, 143 n. 277

Tractatus de sex dierum operibus: 10 n. 38,
46, 46 n. 109

Thomas Becker: 1

Thomson, R. M.: 184 n. 482

Thörnqvist, C. T.: 31 n. 34, 32 n. 41, 68 n. 23

Tilliette, J. Y.: 86 n. 10

Tobin, R. B.: 18 n. 66, 191 n. 1, 192 n. 5,
193 n. 9

Tolan, E. K.: xiii n. 1

Tuominen, M.: 123 n. 194

Tweedale, M. M.: 35 n. 51

- Van Dyke, C.: 64 n. 7, 66 n. 16, 124 n. 200, 188 n. 6
 Van Laarhoven, J.: 15 n. 52, 21 n. 77, 23 n. 89, 25 n. 98, 46 n. 110, 49 nn. 124–25, 50 n. 127, 50 n. 129, 53 n. 146, 66 n. 15, 66 nn. 17–18, 67 n. 19, 75 n. 64, 86 n. 9, 86 n. 11, 88 n. 19, 89 n. 23, 90 n. 36, 106 nn. 112–13, 119 n. 172, 129 n. 218, 161 n. 362, 168 n. 402, 175 n. 438, 196 n. 26, 197 n. 27, 204 n. 67
 Van Riet, S.: 58 n. 175
 Velleius: 89
 Verheijen, L.: 90 n. 38
 Vernet, A.: 4 n. 14, 5 n. 20, 32 n. 43, 117 n. 165, 165 n. 388
 Victorinus *see* Marius
 Virgil: 44, 46, 46 nn. 108–09, 47–49, 49 n. 123, 51, 51 n. 134, 125 n. 202, 191 n. 1
 Aeneid: 48 n. 120
 Georgics: 46, 168, 200 n. 43
 Vitalis of Blois:
 Geta: 203 n. 59

 Wallies, M.: 125 n. 204, 136 n. 251, 155 n. 331, 170 n. 414, 182 n. 470
 Walsh, G. G.: 76 n. 72
 Ward, John O.: 3 n. 12, 3 n. 14, 14 n. 52, 17 n. 60, 30 n. 25, 51 n. 135, 52 n. 139, 52 n. 140, 86 n. 10, 144 n. 291, 191 n. 1, 192 n. 6, 194, 194 n. 11, 195 n. 20, 198 n. 35, 204, 204 n. 66
 Webb, C. C. J.: 7 n. 27, 7 n. 29, 16 n. 56, 23 n. 87, 24 n. 94, 25 n. 95, 38 n. 73, 44 n. 98, 46 n. 105, 46 n. 110, 50 nn. 126–27, 66 n. 15, 66 nn. 17–18, 83, 83 n. 1, 86 n. 9, 86 n. 12, 88 n. 19, 90 n. 30, 90 n. 32–33, 90 n. 37, 92 n. 46, 95 n. 56, 98 n. 72, 106 n. 113, 113 n. 140, 125 n. 202, 140 n. 268, 144 n. 287, 163 n. 375, 167 n. 396, 168 n. 401, 173 n. 427, 179 n. 455, 180 n. 461, 180 n. 463, 183 n. 477, 184 n. 481, 197 n. 27, 199 n. 39, 204 n. 61
 Weidemann, H.: 75 n. 61
 Weijers, O.: 2 n. 5, 3 n. 13
 Wetherbee, W.: 2 n. 5, 46, 46 n. 109, 163 n. 370

 Whitaker, C. W. A.: 75 n. 61
 William of Champeaux: 110, 123
 William of Conches: 1, 3, 4 n. 15, 11, 11 n. 40, 17–18, 21, 40, 46, 48, 90–91, 96, 138, 138 n. 259, 160, 175 n. 435, 175 n. 437, 187, 194
 Dragmaticon philosophiae: 4 n. 16, 81 n. 92
 William of Lucca: 31 n. 31
 Summa dialectice artis: 31 n. 31
 William of Moerbeke: 37 n. 69
 William of Soissons: 12, 12 n. 43, 13–14, 16–17, 19–20, 50, 144, 144 n. 289, 195, 196, 196 n. 23, 198 n. 33
 William of Tyre: 13
 Chronicon: 13 n. 46
 Wright, T.: 19 n. 69, 63 n. 2, 161 nn. 363–64, 201 n. 47

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